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Psychological Abstracts

CONTENTS

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PSYCHOLOGICAL ABSTRACTS

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GENERAL

2095. **Bekhterev, V. M. General principles of human reflexology.** (3d ed. revised and supplemented.) Leningrad: Government Publication, 1926. Pp. 423.—This is the third edition of a book the first edition of which appeared in 1918 and the second in 1923. The author adheres in the main to the same principles of psychological objectivism which he has laid down in his earlier writings, "Objective psychology," "Collective reflexology," and in numerous smaller publications. New researches in the associated (conditioned) reflex from the author's and Pavlov's laboratories enable the author, however, to corroborate his original views and to extend them to a much larger degree. The various properties of associated reflexes, the manner of their establishment, internal and external inhibition, inhibition of inhibition, irradiation, time, and quantitative relationships are used freely as explanatory principles for all manifestations of human behavior. The existence of unique conscious data is not denied, but attempts are made to suck them under—to use Watson's expression. "Thought and, in general, subjective experiences are to be understood as inhibited reflexes which will, sooner or later, pass into the objective world in the form of a report or any other reaction." Unlike most American behaviorists, Bekhterev is not loath to plunge into a lengthy discussion of the body-mind problem. He frankly declares himself to be a gnoseological materialist. His materialism, the kernel of which is already found in his "Psyche und Leben" (1902), differs, however, from traditional materialism and may be perhaps more exactly termed "energeticism." "We shall have to recognize one fundamental and primordial basis of everything existent which we designate by the name of energy." "We shall content ourselves with defining energy as motion, and will not enter into a further analysis of the problem." "Matter as well as the metaphysician's 'thing-in-itself' are nothing more than bound energy." "Psychical processes are a result of a greater tension usually occurring when a nervous process is inhibited." "There is one neuro-psychical process from the beginning to the end, but with the insignificant resistance in the peripheral apparatus, the process does not manifest itself in a subjective form, while in the central regions, as a result of the greater resistance, the same process gets a distinct subjective tinge." It may be seen that this attempt to identify consciousness with inhibition is different from that of Professor Montague. It is not energy, or potential energy, but actual kinetic energy under tension which causes subjective experience. Telepathic phenomena, the authenticity of which, the author asserts, was confirmed by his laboratory studies, are explained by the same principles. "The brain of man and of animals, being an energy accumulator, may also under certain conditions play the rôle of an energy transmitter or receiver, similar to a radio station where Hertzian rays are utilized." One recalls the recent report of Dr. Ladd-Franklin that "the nerve when excited and probably also when unexcited emits physical light." Human and animal activities are divided into: simple reflexes, organic reflexes (endogenous, external reflexes, needs, instincts), and associated reflexes. The basis of the division is mainly the ease of their inhibition or

modifiability. Particular attention is given to the concentration reflex, subjectivist's attention, which is considered to be no more than the physiological fact that "when one center is in a state of activity, excitations of other centers are inhibited, sometimes only reënforcing the active center." This physiological fact is due merely to the mutual relationship between excitation and inhibition, numerous counterparts of which are found in that storehouse of explanatory principles—the associated reflex. General principles, seventeen in number, supposedly holding true for the inorganic, organic, and supraorganic worlds, are formulated. The fact that an associated reflex sometimes becomes firmly established after a number of futile trials is placed beside mutation in evolution, and the relation of acceleration to force beside that of the conditioned to the unconditioned reflex. The book on the whole represents well the views of a large number of Russian psychologists and neurologists, as may be learned from the 1923 Congress of Russian Psychologists and Neurologists. It has a bibliography of the author's publications, 135 in number, and abounds in recent experimental data. The author does not cite the experiments of his laboratory very fully.—*H. S. Razran* (Columbia). (Courtesy *J. Phil.*)

2096. **Berman, L. The religion called behaviorism.** New York: Boni & Liveright, 1927. Pp. vii + 153. $1.75.—The author of this little volume has felt called upon to refute the idea that he is a behaviorist, an idea given by some of his writings on glandular activity. The world, he says, is very badly in need of a religion just now, and the behavioristic principles have seemed to fill that need for many individuals, especially in America. Having defined, or rather described, a religion, he states that behaviorism fulfills all the requirements; hence his title. Behaviorists have done some good work, but their doctrine is impossible. Being purely mechanistic, it is predeterministic, therefore cannot fit in with the current doctrine of emergent evolution. Banishing the treatment of mind, it cannot take into account the findings of psychoanalysis, hence it is forced to disregard a great mass of important human data. Treating of stimulus-response, it cannot take into account the findings of *Gestalt* psychology which indicate that organisms react to total situations, to relations between stimuli. The author regards *Gestalt* as the most promising modern doctrine. The latter part of the book is devoted largely to this theory, showing that it fits in with modern science much better than does behaviorism.—*L. M. Harden* (Clark).

2097. **Carmichael, L. The history of mirror drawing as a laboratory method.** *Ped. Sem.*, 1927, **34**, 90–91.—Origination of the mirror drawing experiment as a demonstration of trial and error learning should be ascribed to W. F. Dearborn.—*J. F. Dashiell* (North Carolina).

2098. **Copeland, M. A. Desire, choice and purpose from a natural-evolutionary standpoint.** *Psychol. Rev.*, 1926, **33**, 245–267.—The author attempts to account for telic behavior according to a natural selection hypothesis rather than by one employing concepts of subsequent ends. It is possible and desirable to specify the ends certain acts subserve as functions. Variability in specific desires and purposes both in the same individual from time to time and as among different individuals is allowed for in the theory. A careful distinction must be made between phylogenetic and ontogenetic analysis. A natural-evolutionary psychology cannot furnish the social scientist with an easy, ready-made solution to the problems of group behavior. He must solve these problems himself by having recourse to the slow method of painstaking investigation of social facts, to an historical and comparative study of group behavior.—*H. Helson* (Kansas).

2099. **Corner, G. W. Anatomical texts of the earlier middle ages: a study in the transmission of culture.** *Publ. Carnegie Instit. Wash.*, 1927, No. 364. Pp. 112.—This monograph embodies the results of original research in the field

of the history of science. During the obscure era the anatomist "marched between the philosopher and the physician. . . in the vanguard of man's struggle for truth and freedom through self-understanding." All too little is known of the science of the middle ages, and more especially of the earlier middle ages. The present study deals more particularly with the Anatomia Cophonos—a twelfth century manuscript—a revised text of which is appended. A summary of recent historical research concerned with anatomical texts of the period is also included.—*C. J. Warden* (Columbia).

2100. **Dallenbach, K. M. [Ed.] American Journal of Psychology, Index of Volumes I–XXX.** Ithaca: Amer. J. Psychol., 1926. Pp. 200. $5.00.—The subject matter index, very full and arranged primarily in columns with divisions, subdivisions and cross-references, covers pages 61–200. There are two author indexes, one of original articles (about 700 entries), the other of books reviewed (about 800 entries). A list is also given of the editors of the separate volumes, with dates (1887–1919).—*R. R. Willoughby* (Clark).

2101. **Driesch, H. Critical remarks on some modern types of psychology.** *Ped. Sem.*, 1927, **34**, 3–13.—Behaviorism, while a necessary branch of science, is not psychology, for awareness is the proper subject matter of the latter. But many phenomena, such as memory, hypnosis, the psychoanalytic complexes, psychical research, etc., must be approached behavioristically. Behaviorists, moreover, are, like many other biologists and psychologists, dogmatic mechanists. With the *Gestalt* psychology the author indicates more agreement, having himself often insisted that conscious contents are always wholes. Köhler's "physische Gestalten," however, are declared to be non-existent. Driesch's own psychology is a true "psych"-ology, in which "soul" is the fundamental theoretical concept.—*J. F. Dashiell* (North Carolina).

2102. **English, H. B. Is a synthesis of psychological schools to be found in a personalistic act-psychology?** *Psychol. Rev.*, 1926, **33**, 298–307.—If we can include the essentials of rival systems of psychology, we shall have found a viewpoint which will take care of the facts upon which they lay most stress. The roll of those whose positive contentions have been comprehended under a personalistic act-psychology includes the adherents of the psychology of mental content, conational psychology, hormic or purposive psychology, behaviorism, functional psychology and the *Gestalt*, as well as the self psychology and the less systematized implications of most psychopathologists. Psychology thus conceived leaves out these writers' negations, their denials, the things they will not see or have, but not a single experimental finding, not a single fact of all these schools.—*H. Helson* (Kansas).

2103. **Esper, E. A. The bradyscope: an apparatus for the automatic presentation of visual stimuli at a constant slow rate.** *J. Exper. Psychol.*, 1926, **9**, 56–59.—An exposure-apparatus is described, the main feature of which is an endless chain of metal holders for stimulus-cards. Since the rate of presentation is slow, the name "bradyscope" is preferred to "tachistoscope."—*F. A. Pattie* (Harvard).

2104. **Goblot, E. La logique des jugements de valeur. Théorie et application.** (The logic of judgments of value: theory and application.) Paris: Colin, 1927. Pp. 209. 20 frs.—In applying to the study of judgments of value the method used in his former works, Goblot analyzes some examples of reasoning and deduces from them a logical theory: Reducing all values to three types (perfections, means, and ends), it follows that the judgments concerning them may be proved or refuted by three different methods. This new book is a supplement of the essay on logic by the same author. It has several theoretical chapters (judgments of value in general, classification of values, that which has a value in itself and by itself, the perfection and the perfections, that which has a value

by right of means and end, the measure and estimation of values). In the second part he presents some examples of logical exercises (judgments of compensation, equal pay for equal work, the value theory of Karl Marx, utilitarianism, the value of life, the question of the superiority of mind to matter, material and spiritual goods). An alphabetical index concludes the book. No bibliography. —*Math. H. Piéron* (Sorbonne).

2105. **Kuo, Z. Y. Confessions of a revolutionary psychologist.** *Eastern Miscellany*, 1927, **24**, No. 5, 49–57.—Traditional psychologists are hampered by their dualistic predicament in distinguishing between physical and "psychical" phenomena, and their consequent dependence upon introspection for data. Their problems are trivial and insignificant, while recent studies in animal, child, and abnormal behavior have demonstrated that excellent results can be obtained without the use of introspection. Introspection is inadequate because it (1) is not verifiable by other observers, (2) is not repeatable even by the same observer, (3) is not applicable to children, the insane, and animals, (4) impairs the very processes under observation, and (5) makes no use of instruments of precision. It is moreover theoretically untenable, since it is impossible for man, a physical organism, to observe "consciousness," alleged to be "psychical." Behaviorists believe that "consciousness" is a form of behavior, that the fundamental concepts and assumptions of all natural sciences should be consistent, and that "psychical" as distinguished from physical phenomena do not exist. Behaviorism studies the reactions of an organism to its environment, which are reducible to the motion of electrons. Its method is the same as that of any other modern natural science. So-called "consciousness" includes "knowing" and the "known." The known are objective facts, and "knowing" is non-existent except as a form of behavior. "Sensation," "image," "feeling," "thinking," etc. are all explainable in physiological terms. The concept of heredity is useless in explaining behavior.—*E. Shen* (China Institute).

2106. **Langfeld, H. S. Princeton Psychological Laboratory.** *J. Exper. Psychol.*, 1926, **9**, 259–270.—A detailed description, with floor-plans, of the building and equipment of the new laboratory of Princeton University.—*F. A. Pattie* (Harvard).

2107. **Mangold, E. Das Lebenswerk von F. B. Hoffmann.** (The life work of F. B. Hofmann.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 281–289.—A connected review of the scientific works of Hofmann. A complete list of Hofmann's publications and those of his students under his direction is appended.—*L. T. Spencer* (Yale).

2108. **Richter, C. Principles in bio-physics.** Harrisburg: Good Books Corp., 1927. Pp. 86.—The author has observed that human beings act in certain ways, and has also studied the elementary physics of energy and particularly of electricity; it appears, then, that mind is a compound of such factors as A, the cell's energy, B, resistance in cell and circuit, and CC, resonance of one cell with another at the same rate. A simplification is thereby effected in certain fields of psychology; for example, "passive desire, or the mere wishing for something, is Cn +, CC, CnA/Bn +."—*R. R. Willoughby* (Clark).

2109. **Thomson, M. K. The springs of human action.** New York: Appleton. Pp. 501. $3.00.—This book is an attempt to make a scientific study of the springs of human behavior. The sources, mechanism, and principles of motivation are studied both synthetically and analytically from the viewpoint of the whole personality. An attempt is made to analyze and find the influence on behavior of the conscious and purposeful as well as the unconscious and mechanical drives, to distinguish between the primary and secondary motivating forces in their individual and social influences, and to indicate their relative strength in their interaction with one another. For discussion purposes the author isolates the

various elements of human behavior—instincts, emotions, habits, ideas, will, the libido, etc.—and classifies them, often in a unique way; but his attitude is against the isolating, water-tight compartment method; life, he thinks, must be treated as a unit, and personality be regarded as an integrated whole. "Life is a tangled skein . . . every phase of it is directly or indirectly significant for motivation." The bearing of each phase on our esthetic, moral, social, religious, and economic life is estimated. He makes much use of the standard books which have a bearing on the subject in psychology, philosophy, ethics and religion; quotes McDougall, Ellwood, Woodworth, Hocking, Pratt, and Jung extensively, and makes copious use of other writers who have done work in the field, but estimates each quotation in the light of his main concept—a unified personality functioning normally.—*H. Moore* (Mt. Holyoke).

2110. **Troland, L. T. The mystery of mind.** New York: Van Nostrand, 1926. Pp. xi + 253. $3.00.—This book is intended primarily for those who have not made a special study of psychology. It purposes to outline the problems of scientific psychology so that the lay reader will appreciate their true nature and significance. It is also believed that the emphasis upon the mystery and romance of mind will carry some message of inspiration even to the professional psychologist. Chapters I to VII deal with the nature of consciousness and its relation to matter. Chapters VIII to XI attempt to explain the mechanism that causes people to behave as they do. Chapters XII and XIII give a semi-scientific treatment of the physics of nerve action and the fundamental relations of consciousness and electricity. Chapters XIV and XV deal with the so-called "subconscious" and "superconscious" minds. A "panpsychic universe" is deduced by a parallelistic treatment of mind and matter.—*P. H. Ewert* (Clark).

[See also abstracts 2111, 2114, 2130, 2165, 2169, 2174, 2254, 2256.]

SENSATION AND PERCEPTION

2111. **Basler, A. Ein Farbvariator.** (An adjustable color-mixer.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 624–626.—An adjustable color mixer is described in which the colors are stationary and may thus be varied during observation, while the fusion is obtained by a rotating mirror set slightly off the vertical. A second mirror in the center of the colored field reflects the image of the rotating mirror at an angle of 45° into an observation tube.—*L. T. Spencer* (Yale).

2112. **Crosland, H. R., Taylor, H. R., & Newsom, S. J. Intelligence and susceptibility to the Müller-Lyer illusion.** *J. Exper. Psychol.*, 1927, **10**, 40–51.—In 25 subjects no significant relationship between scores on an intelligence test and susceptibility to the Müller-Lyer illusion was found. Six different modes of presentation were used, and correlation coefficients for the amount of error occurring in these different modes were calculated. Bibliography, 40 titles.—*F. A. Pattie* (Harvard).

2113. **Edmund, C. Some methods of testing dark-vision.** *Acta Ophth.*, 1925, **3**, 153–169.—The writer describes two different outfits designed by himself, one for a thorough examination by a specialist in ophthalmology and another to be used for a rapid test by a non-specialist, who happens to have to decide a question of normal *vs.* abnormal dark-vision. Graphs, tables, and footnote references.—*M. L. Reymert* (Wittenberg).

2114. **Ferree, C. E., & Rand, G. A spectrum color-mixer.** *J. Exper. Psychol.*, 1926, **9**, 146–154.—A color mixer is described, consisting of an attachment to a spectroscope, which may be assembled, with the exception of special

objective slits, from any good laboratory equipment, and which furnishes combinations as follows: light from any two parts of the spectrum, lights from three or four parts of the spectrum with a considerable range of choice in the colors selected, a pair of complementary colors with any other color in the spectrum or with a mixture of two other colors, with a considerable range of choice in the selection of the colors forming the mixture. The optical equipment is simple.—*F. A. Pattie* (Harvard).

2115. **Grünér, —. On colour-sense tests with coloured light objects.** *Acta Ophth.*, 1925, **3**, 149–152.—When it was decreed in 1913 in Finland that a sailor, in order to be signed on, must possess perfectly normal color vision, many old sailors were excluded from their former work. The discontent aroused by this decree led the writer to make an attempt at determining by means of tests with colored light objects, whether there was any truth in the claim brought forward by sailors with anomalous color vision, that they were able to distinguish between the green and red lights equally as well as their fellows with normal vision, even though they failed at the pigment-test. He therefore constructed a special lamp with an adjustable light aperture whereby a great variety of shades and intensities of colors as well as brightness differences could be procured. Comparative results from Stilling's pseudo-isochromatic plates, Nagel's concentric circles and Cohn's contrast color tests are presented; with his own lantern tests over ninety-two persons were examined from 1913 to 1917, and their results are given in tabular form. As against the lantern test the Stilling test seems to be the most effective. Rules for an efficient testing for color blindness are given. —*M. L. Reymert* (Wittenberg).

2116. **Ha Kan Rydin. De la capacité de distinguer aux différents âges de la vie les radiations vertes ayant une longueur d'onde de 539$\mu\mu$ et celles vert-bleuâtre de 500$\mu\mu$.** (The ability at different ages to distinguish between green rays having a wave length of 539$\mu\mu$ and blue-green of 500$\mu\mu$.) *C. r. Soc. biol.*, 1927, **96**, 818–820.—A report of experiments carried out on 92 subjects between the ages of 50 and 95 years by means of a polarized anomaloscope with rays of green and blue-green. The ability to distinguish between these two colors decreases with age, even in the absence of ocular defects. This diminution is not certainly discernible before 60 years.—*Math. H. Piéron* (Sorbonne).

2117. **Holm, E. Investigations of myopia in Danish secondary schools.** *Acta Ophth.*, 1925, **3**, 121–130.—Referring to earlier investigations on myopia in Sweden and Denmark, the writer gives the results of his examinations in Copenhagen and Aalborg, in 1924–25, of secondary school pupils. Contrary to Swedish results, no decrease in number of myopes was found. Corroborating Ask (Sweden) the myopia percentage among students of science was much less than the one for students of languages.—*M. L. Reymert* (Wittenberg).

2118. **Meisling, A. A. Colour sense and colour sense tests.** *Acta Ophth.*, 1925, **3**, 145–148.—In order to examine how the true red-blind and green-blind would perceive the usually applied color tests (Holmgren, Krenchel, Daa, and others) solutions of light-green (Licht-grün) and erythrosin were employed, the former dye-stuff excluding nearly all the red rays, the latter the majority of the green. The results of these tests showed that it is comparatively easy, by means of color-filters, to make the examiner red-blind, red being confused with and identical with brown, greyish and black, and purple with blue. It was far more difficult to produce a state of green-blindness by means of the tests used, the result being highly dependent on the spectral composition of the dye-stuffs, which varies from sample to sample. The two explanatory theories for the sense of color are discussed: (1) the presence of color-filters in the retina, (2) the sensitization theory. See also A. Meisling, "Sur la sensibilité des colloides," Copenhagen, 1908.—*M. L. Reymert* (Wittenberg).

2119. **Nafe, J. P. Dermal sensitivity with special reference to the qualities of tickle and itch.** *Ped. Sem.*, 1927, **34**, 14–27.—Experimentation with a variety of stimuli upon many parts of the body, especially the hands and arms, produced findings generally confirmatory of previous work. Experiences of tickle and itch were analyzed by observers to be identical qualitatively with the brightness of contact, tickle being less intensive, less bright, than itch, but differing only from it in degree. The experiences were aroused by contact stimuli, the former by smooth and the latter by rough objects moved very lightly over the surface. No evidences for the existence of specific tickle or itch spots were found. The theory of double stimulation in the production of tickle is suggested.—*J. F. Dashiell* (North Carolina).

2120. **Risler, J. L'influence psychologique de la lumière.** (The psychological influence of light.) *Cour. méd.*, 1927, **77**, 40–42.—Actinotherapy is dependent directly on the physiology of sensations. Yellow awakens euphoria in us, red energy, purple sadness. It is not the pressure of light which influences our sensations. But it is known that light acting on the optical as well as on the other nerves produces an electrical current which varies according to the wave-lengths of the stimulating light. As to yellow, in consequence of the selective absorption of the macula, there seems to be a favorable orientation of the nervous molecules and the frequencies of the yellow light would thus seem to be in resonance with the optical nervous frequencies, hence the sensation of well-being; while the purple, blue-green, or red radiations by means of their too strong or too feeble amplitudes would produce sensations of embarrassment, of sadness or of anguish.—*Math. H. Piéron* (Sorbonne).

2121. **Salman, A. [Influence of fatigue on the auditory receptor.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 1–2, 36–45.—The author's experiments proved in a vast majority of cases a marked diminution of the function of hearing, viz., a curtailment of perception (i.e., a rise of threshold) of low tones and even more of high tones.—*A. L. Shnirmann* (Leningrad).

2122. **Schubert, G. Studien über das Listingsche Bewegungsgesetz am Auge. III.** (Studies on the Listing law of eye-movement.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 580–603.—The validity of Listing's law is demonstrated for several changes in head position. The law also applies for near vision if certain extraneous disturbances are disregarded.—*L. T. Spencer* (Yale).

2123. **Ulrik Möller, H. Über die Messung der Desadaptation mit Tscherningschen photometrischen Gläsern.** (On the measurement of recovery from adaptation with Tscherning's photometric glasses.) *Acta Ophth.*, 1926, **3**, 272–280.—Following up an earlier article (*Acta Ophth.*, 1923, **1**), the writer gives the results of several experiments in regard to the way in which recovery from adaptation sets in, and compares these with those of Lohmann.—*M. L. Reymert* (Wittenberg).

[See also abstracts 2170, 2173.]

FEELING AND EMOTION

2124. **Gates, G. S. An observational study of anger.** *J. Exper. Psychol.*, 1926, **9**, 325–336.—Fifty-one women students recorded all their experiences of anger or extreme irritation during one week, and their reports are here analyzed with respect to frequency and time of occurrence, condition before the emotion and after it, duration, causes, reactions during anger, and impulses experienced.—*F. A. Pattie* (Harvard).

ATTENTION, MEMORY AND THOUGHT

2125. **Cason, H. Specific serial learning; a study of remote forward association.** *J. Exper. Psychol.*, 1926, **9**, 299–324.—Seventeen subjects learned two kinds of word-lists derived from a passage of difficult prose; the first kind of list was obtained by taking from the material alternate words in a forward direction, while the second consisted of words taken in a backward direction which were originally separated by 21 intervening words. The subjects then learned the prose passage and studied it further and recited it daily for one week. Thereafter they learned the word-lists again. The effect of the formation of remote forward associations in the process of learning the prose would be to render relearning of the first kind of list easier than relearning of the second kind. The variability of the subjects was considerable; some gave results in favor of the theory of remote association while others did not, but the results on the whole were opposed to the theory. A similar method was used with easier logical material (prose and verse) with similar results.—*F. A. Pattie* (Harvard).

2126. **Chaslin, P. Essai sur le mécanisme psychologique des opérations de la mathématique pure.** (An essay on the psychological mechanism of the operations of pure mathematics.) Paris: Alcan, 1927. Pp. 272. 30 frs.—This is a study of the work of the mathematician and of the special processes employed by him, mental operations generally objectified by symbolic language and by subsequent verification with precision. It is the method of observation of the descriptive psychologist which the author has adopted in order to study the elements of the mechanism of the operations of pure mathematics. He attempts to find out the particular ideas and the special psychological techniques employed. The author treats in their turn the problems concerning the origin and formation of numbers, the operations of arithmetic, fractional and irrational numbers, number series and infinity, generalization of numbers, analysis of combinations and groups, the theory of numbers, algebraic equations, series and limits, functions and calculation of these functions, the infinitesimal, mathematical reasoning and symbolism, and objectivity of mathematics. The author says that mathematics is the science of operations, real or imagined, direct or symbolic, of composition, analysis, complex formation, arrangement or correspondence, which we desire to make with respect to a collection of objects or phenomena, real or imagined—operations suggested to the mind by everyday life, science, or by the imagination itself.—*Math. H. Piéron* (Sorbonne).

2127. **Claparède, Ed. [Intelligence and will.]** *Sbornik, psovyashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume), 1926, 81–86.—Intelligence and will have as their function the solution of the problems of behavior. What distinguishes intelligence and will? (1) Purpose of the problem: intelligence has the function of settling the problems of the means, while will has the function of solving the problems of the end. (2) Nature of control: intelligence is controlled by reality, will by an ideal. The sort of act which allows no conflict of tendency should be called a simple intentional act. An intentional act with hesitation concerning the means, which is not controlled by fact, but which is controlled by the beautiful, is artistic activity.—*A. L. Shnirman* (Leningrad).

2128. **Douglass, H. R. A summary of the experimental data on certain phases of learning.** *Ped. Sem.*, 1927, **34**, 92–117.—A useful review of experimental literature on: (1) the most economical unit for learning; (2) the influence of various affective factors; (3) the most favorable distribution of practice; (4) the relative efficiency of manners of presentation; (5) the influence of interpolated activity; (6) the relation between degree of learning and retention; (7) the relation between length of material and learning; (8) the relative ease of learning and permanence.—*J. F. Dashiell* (North Carolina).

2129. **Ferriere, Ad. Du rôle complémentaire de l'imitation et de l'imagination dans la vie pratique.** (The complementary rôle of imitation and imagination in practical life.) *Psychol. et vie*, 1927, **1**, 7–9.—The man of action is continually called upon to imitate and to invent. According to the work it is imitation (acquisition of technique) or invention which masters it, but nothing is so narrowly specialized as to include only one meaning or the other. Every creator ought to acquire a technique and every workman, if he be specialized, ought to know the work of the creator and to try to create himself.—*Math. H. Pieron* (Sorbonne).

2130. **Heidbreder, E. F. Thinking as an instinct.** *Psychol. Rev.*, 1926, **33**, 279–297.—Recent tendencies in psychology reduce thinking to something else, simpler, or regard the rôle of reasoning in human life as subordinate to that of emotion or instinct. It is possible to deal with thinking in a naturalistic way without making thinking and instinct incompatible by opposing intellectual and biological functions of the organism. The author then discusses the nature of instinctive activity and concludes that thinking "conforms to the concept of instinct." Objections are answered and the value of the point of view urged is defended.—*H. Helson* (Kansas).

2131. **Key, C. B. Recall as a function of perceived relations.** *Arch. Psychol.*, 1926, **13**, No. 83. Pp. 106.—A long introduction is presented to show the inadequacy of the objective factors and the efficiency of the subjective factors in learning. Learning is not altogether passive and objective but is subjective and active. Accepting this point, the author proceeds to study the perceived relation as a function of recall. The material used was some form of paired word associates; it is presented in the appendix of the monograph. Words were always presented visually. The subjects were all adult students. There were eight major experiments and five check experiments. Instructions were given to each group, followed by a short practice experiment. The first experiments were planned to answer the question "To what extent is recall a function of the unusual, unique, or bizarre relation as compared with the usual, frequently employed, commonplace relation?" It was found that the learning value of the commonplace relation was one and one-half to two times that of the unique relation. The recall value of the commonplace was one to three times that of the unique. The rate of forgetting was about 20% slower for the commonplace, and the 100% learner gained most of his superiority in the retention of the unique. Another question was "Is material in which the relationship is close, *not* far-fetched, *not* strained, better or less well recalled than material in which the relationship is least obvious and most far-fetched?" The recall value of the closely related material is twice that of the poorly related material when the learner constructs the pairs, estimates the relations, and recalls the pairs. The rate of forgetting the well related is about 30% slower than the rate of forgetting of poorly related pairs. "To what extent is recall a function of the relation perceived and used under free and under controlled and under partially controlled conditions of learning?" The learning and recall of the to-be-related material was from 10 to 20% greater than for the related material. The rate of forgetting is about the same for the two kinds of material. A chapter on interpretations is presented. After reviewing other explanations it is proposed that the commonplace, the close, and the freely selected relations are the easily perceived relations. This explanation emphasizes the extent to which recall is a function of the commonly perceived, the close, and the freely selected relation.—*E. M. Achilles* (Columbia).

2132. **Rodrigues, G. La mémoire.** (Memory.) *Psychol. et vie*, 1927, **1**, 5–7.—What is an exact and sure memory? It is an unencumbered and well organized memory. There are two principles to be followed in educating one's

memory. (1) In order to learn, one must understand, therefore one must proceed from the whole to the parts and not vice versa. (2) To understand one must have learned, one must command one's knowledge, must have incorporated it under the form of reflexes. The secret of a good memory consists largely in knowing how to forget; thus one gets rid of the superfluous, and arrangement becomes easy. A good logical and organized memory is at the same time cause and effect of intelligence.—*Math. H. Piéron* (Sorbonne).

2133. **Sageret, J. Spéculation et action.** (Contemplation and action.) *Psychol. et vie,* 1927, **1,** 3–5.—The author shows, with examples, the fruitfulness for action of a disinterested speculative curiosity. While action directs its researches toward the immediate feature, curiosity causes distant regions to be explored. A purely theoretical view may contain a germ of great practical consequence. If the engineer can transform the face of the world, it is because the physicist, the chemist and the mathematician have worked in silence, each in his branch.—*Math. H. Piéron* (Sorbonne).

2134. **Thorndike, E. L. The influence of primacy.** *J. Exper. Psychol.,* 1927, **10,** 18–29.—A test of the doctine of primacy ("other things being equal the association first formed will prevail"). Subjects estimated the lengths of strips of paper and the areas of surfaces, drew lines of certain required lengths, represented certain sounds by letters, and added letters to make words of such combinations as *ca, de,* etc., and the similarity of the successive responses or estimations to the first response or estimation in the series was noted. The experiments lend no support to the doctrine that the first connection made with a situation is more important than any other in determining future connections. "In general, the first connection shows no greater potency over the *n* connections immediately following it than the second connection does over the *n* connections immediately following it. In general also the first connection shows no greater potency over those following it than the *n*th experience shows over those preceding it. On the contrary, in four of the six experiments there is much greater resemblance to what comes after than to what comes before." The facts which led to the formulation of the primacy principle are explained better by two corollaries of the general law of use or frequency.—*F. A. Pattie* (Harvard).

[See also abstracts 2274, 2285, 2297.]

NERVOUS SYSTEM

2135. **Bing, R. Compendium of regional diagnosis in affections of the brain and spinal cord.** (3d Ed. revised and enlarged.) (Trans. from the 6th German Ed. by F. S. Arnold.) St. Louis: Mosby, 1927. Pp. 222. $6.00.—The sub-title, "a concise introduction to the principles of clinical localization in diseases and injuries of the central nervous system," accurately describes Bing's book. The first part deals with the regional diagnosis of lesions of the spinal cord, in two sections, (A) transverse or systemic diagnosis, and (B) longitudinal or segmental diagnosis. The second part deals with the regional diagnosis of brain lesions, in three sections, (A) cerebral axis or brain stem, (B) cerebellum, and (C) cerebrum, basal ganglia, and hypophysis. The book contains all the principal anatomical and physiological points needed for diagnosis of lesions of the nervous system. The facts under the spinal cord are grouped according to systems—sensory, motor, trophic, vaso-motor—and according to segmental arrangements. Under the brain a similar arrangement of facts is made, but in addition special consideration is given to the symptomatology from lesions of the brain stem and cerebral nerves, and to the symptoms of injury of the basal

ganglia. A short appendix deals with cranio-cerebral topography, and with Roentgen-ray localization of cerebral tumors. There is a satisfactory index. References are omitted. The diagrams are clear—almost obviously giving the facts mentioned in the text. In a few instances German designations are retained outside of the principal figures. In other instances German designations are given on the figures themselves. In most instances the Latin name is given. —*S. I. Franz* (California, So. Br.).

2136. **Bremer, F., & Leclercq, R. Les hyperglycémies réflexes.** (The reflex hyperglycemias.) *C. r. Soc. biol.*, 1927, **96**, 1409–1411.—Experiments made with dogs and cats seem to indicate that there are two kinds of reflexes, one which follows the excitation of a depressor nerve, the other which is aroused by the excitation of peripheral nerves, unaccompanied by specific vaso-dilation, and which involves functionally sympathetic fibers.—*Math. H. Piéron* (Sorbonne).

2137. **Lhermitte, J. Le syndrome infundibulaire dans l'hydrocéphalie. L'appareil régulateur de la fonction hypnique.** (The infundibular syndrome in hydrocephalus. The regulatory apparatus of the hypnic function.) *Gaz. des hôp.*, 1927, **100**, 621–624.—The author describes the experiment of Demole with cats and confirms that the hypnogic zone, delimited by Demole, corresponds to the region of the infundibulum of man where the tumors develop which cause pathological sleep. But, the author adds, the active regulator of sleep comprises, besides the infundibulum, the posterior part of the diencephalon as far as the mesencephalic cranium.—*Math. H. Piéron* (Sorbonne).

2138. **Nekrasov, P. A. [The irritating effect of the anode and the cathode on a nerve treated with monovalent and bivalent cations (K′ and Ca″).]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 115–134.—(1) With K′ and Ca″ poisoning of the nerve the changes of the reaction at opening and closing of the constant current lead either in one direction or the other, and finally to a complete inversion of the Pflüger law of contraction. (2) This inversion occurs after a completely different evolution for K′ and Ca″. (3) For K′ a more rapid disappearance of the effects of closing a decreasing current is characteristic; i.e., from the rising cathelectrotone, in comparison with the effect of an opening of the increasing current, i.e., the disappearing anelectrotone. (4) For Ca″ the reverse is characteristic, that the effects of an opening in the increasing current, i.e., of a disappearing anelectrotone, disappear more quickly than the effects of closing the decreasing current, i.e., from the rising cathelectrotone. (5) With the transition of the normal to the inverted phenomena the anode with K′ poisoning runs through a stage of a simultaneous effect, both for the opening and for the closing moment. For the cathode, on the contrary, a stage of "passing" phenomena occurs, i.e., during a certain experimental period the cathode exercises an effect neither at opening nor at closing. (6) With Ca″ poisoning occurs the stage of a simultaneous effect with closing and with opening as opposed to the cathode, as against which the anode exhibits only the stage of the "passing" phenomena. (7) These temporal changes are repeated in a certain degree according to the length of the nerve, in the following zones: (a) in the zone which was not subjected to the action of the agents and is close to the muscle; (b) in the middle zone (between the normal and the following "completely changed" zone), and (c) in the completely changed zone (altered by K′ or Ca″). (8) All phenomena are more strongly pronounced for K′ and appear much more quickly than for Ca″. (9) It is characteristic that it is not possible to produce a complete inversion by the action of K′ in the winter months, although it was possible with Ca″, even though in a weakened form.—*A. L. Shnirman* (Leningrad).

2139. **Resvyakov, N. P. [The relative indefatigability of the nerve in parabiosis and the fatigue factors which cause parabiosis.]** *Novoe v refleksologii i*

fiziologii nervnoi sistemy (Reflexological and neurophysiological news), 1926, **2**, 135–143.—Statements by Vedenski and his pupils, as well as the results of his own investigations, induce the author to believe that the nerve is indefatigable in parabiosis and that the accumulation of any kind of products of metabolism, which are not removed from the tissue, may also cause parabiosis, as do other chemical agents. Thus it seems that, without doubt, certain changes in the chemical composition of the blood and of the fluids of the tissues, for instance during or after intense muscular activity, may cause parabiosis, or may thus affect favorably some especially sensitive physiological organism. In this case also the parabiotic inhibition must always appear long before the exhaustion of oxygen or nutritive substances.—*A. L. Shnirman* (Leningrad).

2140. **Rosenberg, H. Neue Untersuchung über den Aktionsstrom des Nerven.** (New investigations on the action current of nerve.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 300–307.—The action of frog's nerve was amplified without distortion by a 3-stage resistance coupled amplifier and directly registered on an oscillograph. Various tests show the method to be exceedingly accurate, and the several measurements of duration and intensity as well as the shape of the curve are offered as very close to the true values.—*L. T. Spencer* (Yale).

2141. **Sicard, J. La cordotomie.** (Cordotomy.) *Sud méd. et chirur.*, 1927, **59**, 874–882.—The author described a simple section, without cellular excision, of a small medullary segment extending peripherally from the anterior roots to the denticulated ligament, also cutting off entirely the tract of Gowers, then penetrating toward the center up to the grey region and involving the fibers of pain sensitivity. Tactile sensitivity is definitely undamaged, (with a slight enlargement of the circle of Weber). Temperature sensitivity is changed; cold and hot interfere; a frozen object gives an impression of heat. Pain sensitivity is abolished or very dull. Deep sensitivity and the sense of fragmentary attitudes persist. Osseous sensitivity to tones remains normal. Motor disturbances appear only if there is an involvement of the cerebellar tract, and especially of the crossed pyramidal tract. The reflexes of the Achilles and patellar tendons are conserved. It seems that the tract of Gowers does not contain fibers of deep sensitivity. The fibers for pain sensitivity and temperature are grouped in the lateral bundle (antero-lateral posterior). These fibers for temperature and pain from the most peripheral cutaneous segments are given a more cortical localization than central medullary; since the anaesthesia for pain in the body areas below the lesion is always more accentuated toward the low regions than toward the high regions. Brief bibliography.—*Math. H. Piéron* (Sorbonne).

2142. **Ufland, J. M. [Concerning the influence of the nerve centers on the excitability of the nerve.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 76–92.—Experiments were made on *Rana temporaria*. The brain of the frog was removed. The spinal cord in the lumbar region was exposed and on the ventral side a small piece of paper, one mm. square, moistened with a 4% phenol solution, was inserted. The sensory roots of the lower extremity on the poisoned side were severed in order to exclude the possibility of proprioceptive impulse. Under the motor roots or under the n. ischiadicus electrodes were inserted by the Du Bois-Raymond induction apparatus. The degree of excitability of the nerve was estimated in accordance with the contraction index of the m. gastrocnemius. Simultaneously similar experiments were made on control specimens which had not been poisoned with phenol. In the majority of experiments (74 in all) the excitability of the motor nerve increased in proportion to the excitement of the motor nerve cells of the spinal cord. On the average the contraction index of the muscle was increased by 6 cm. after poisoning. In the control experiments,

however, where any increase of excitability could be determined, this appeared only after two hours. Thus the experiments here discussed indicate that the excitability of the nerve ("nerve tonus") depends on the condition of the nerve centers.—*A. L. Shnirman* (Leningrad).

[See also abstracts 2173, 2198.]

MOTOR PHENOMENA AND ACTION

2143. **Abramovich, C. A., & Pichugina, E. N. [On the influence of general physical fatigue upon the associative reflex.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 180–195.—The object of the research was to determine what effect great physical fatigue had upon the associative reflex in man. The needed fatigue was brought about by a definite kind of work. The work was twofold: lifting of a weight and running. The fatigue caused by the lifting of a weight and by running has a different influence on the associative reflexes of different subjects. Running has a stronger influence on the durability as well as on the differentiation of the associative reflexes than the lifting of a weight. The influence of fatigue upon the durability of the associative reflex expresses itself in most cases by a diminution of the same. The influence of fatigue upon the differentiation of the associative reflex is a different one: In some cases we find an improvement of differentiation, in others an aggravation.—*A. L. Shnirman* (Leningrad).

2144. **Farmer, E. Parallelism in curves of motor performance.** *Brit. J. Psychol. (Gen. Sect.)*, 1927, **17**, 335–342.—Curves of motor performance, obtained from laboratory experiments and from the study of industrial processes, show great similarity in form for different groups of individuals, so that we may conclude that individuals are more similar than dissimilar in their methods of reacting. Speed of reaction is found to be closely related with positional association—an important matter from the point of view of machine design.—*H. Banister* (Cambridge).

2145. **Fischer, M. H., & Kahn, R. H. Ein bisher unbekanntes Vestibularisphänomen.** (A heretofore unknown vestibular phenomenon.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 555–564.—If a rabbit is suspended by the ears after section of the cord in the thoracic region an active pendulum-movement is set up about the long axis of the animal. The rotation may be as much as 20° to each side of the starting position. The head follows the rotation with a slight lag, similar to a nystagmus, but never makes as great an excursion as the trunk. A nystagmus of the eyes occurs in the direction of the head movement. The forelegs also enter into the movement; the leading foot is lowered and the following one is raised. Normal rabbits show the same movements when temporarily paralyzed in the back by compressing the abdominal aorta. Unilateral extirpation of the labyrinth produces asymmetrical rotation, while complete extirpation ends the movements permanently. The active muscles appear to be in the head and neck.—*L. T. Spencer* (Yale).

2146. **Fischer, M. H., & Veits, C. Beiträge zur Physiologie des menschlichen Vestibularapparates. VI. Kippreflexe und Ruckreflexe.** (Contributions to the physiology of the human vestibular apparatus. VI. Tip-reflexes and back-reflexes.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 565–579.—Various reflex disturbances, produced by sudden movements of the head forward and backward, from side to side, or in rotation are described, together with certain equilibrating reactions to tipping in a desk chair.—*L. T. Spencer* (Yale).

2147. **Fursikov, D. S. On the relationships between the processes of excitation and inhibition.** *Trudy physiologicheskikh laboratoryi akademika I. P.*

Pavlova. Leningrad, 1925. Pp. 1–47.—The relative strengths of conditioned excitation and inhibition of the salivary reflex were investigated in Pavlov's extra stimuli-proof laboratories. Five dogs were used, the apparatus registering .2 mms. of a secretion. The unconditioned stimulus consisted of feeding the animals with powdered sugar for 30 sec. The conditioned excitatory stimuli were the sound of a metronome, 76 beats per minute, and the sight of a ring. The conditioned inhibitory stimuli were: the sound of an electric bell, of air passing through water, of a tone La_2; the sight of a ring, of a white oval, of a noiseless whirligig; the sight and sound of a kymograph; rubbing with a comb for one minute; a temperature of 45° C., of 55° C., acting on an area 7 cm. in diam. A stimulus was considered to be an inhibitory stimulus when upon its simultaneous application with a conditioned excitatory stimulus for one minute, subsequent to an application of the inhibitory stimulus alone for 3–5 secs., the combination of the two failed to produce any secretion, if not strengthened by the unconditioned stimulus. The results show that the strength of the conditioned inhibitory stimulus must be of a certain magnitude relative to that of the conditioned excitatory stimulus in order to produce inhibition. Thus, a conditioned excitatory reflex to a metronome of 1.2 c.c. of saliva per minute was not inhibited when the conditioned excitatory stimulus was applied with the sound of air passing through water for 32 times, with the sight of a noiseless whirligig for 35, with the sight of a white oval for 62, or with a temperature of 45° C. for 102 times; while the sound of an electric bell or the sight and sound of a kymograph completely inhibited the same reflex on the 8th or 12th time respectively. A temperature of 45° C. did become a conditioned excitatory stimulus and also almost completely inhibited a conditioned excitatory reflex of 1.2 cc. per minute to the sight of a ring. The process of inhibition proceeded as follows. The first few times there were definite overt movements accompanied by a very considerable inhibition. As those movements disappeared, the inhibition somehow decreased, to be followed by a gradual increase until it reached 100%. This is explained as a transition from external to internal inhibition, the former decreasing and the latter increasing with repetition. A very interesting time relationship was also found. A stimulus can become a conditioned inhibitory stimulus only when it is applied simultaneously with, or followed directly by, the conditioned excitatory stimulus. When the stimulus precedes the conditioned excitatory stimulus by more than a minute, no inhibition is possible. When it precedes by 15–30 secs., the stimulus, instead of becoming inhibitory, becomes itself conditioned to the conditioned excitatory stimulus, thus forming a conditioned reflex of the second order. When the pause between the two stimuli is 5–15 secs., no conditioned reflex of the second order or conditioned inhibition is produced, some equilibrium apparently establishing itself between the two processes. After a conditioned inhibition had already been established, it was possible to lengthen gradually the pause between the two stimuli and still preserve the inhibition unimpaired. It was also possible to form a conditioned inhibition when the conditioned inhibitory stimulus was applied 3–5 secs. after the conditioned excitatory stimulus.—*H. S. Razran* (Columbia).

2148. **Haberlandt, L. Über hormonale Sterilisierung weiblicher Tiere. III. Fütterungsversuche mit Ovarial-und Placenta-Opton.** (On hormonal sterilization of female animals. III. Feeding studies with ovarial and placental optones.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 525–533.—Sterilization by feeding ovarial optones from the ovaries of pregnant animals and also by placental optones was produced in white mice. This supplements previous findings with transplantation and injection methods.—*L. T. Spencer* (Yale).

2149. **Ilyina, O. S., & Lykhina, E. T. [On the influence of artificial ac-**

celeration **and suspension of breathing upon the associative reflex.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 196–201.—The following was the method of the investigation: In the usual way each subject became habituated to the associative motor defence reflex of the hand. After fixing and differentiating the reflex some special experiments were made. Each experiment was divided into two parts; in the first half the durability and the differentiation of the reflex under ordinary circumstances was examined; in the second, in the state of dyspnoea (for this purpose the subject was made to breathe hard and rhythmically 60 times to the minute) and in the state of apnoea (where after breathing hard the subject had to stop breathing). Parallel to this some control experiments were made where both halves of the experiment were conducted under ordinary conditions. It was thus proved that dyspnoea as well as apnoea presents a dissolution of the reflex, either partly or wholly. The degree of dissolution is different in the different subjects. (Dissolution was strongly marked in the case of a woman with whom the reflex was very enduring and generalized.) In one case, besides the dissolution of the reflex, there was also a disturbance of its differentiation in both states and in another case there was a disturbance of differentiation only in the dyspnoeic state.—*A. L. Shnirman* (Leningrad).

2150. **Johnson, G. B. A study in learning to walk the tight wire.** *Ped. Sem.*, 1927, **34**, 118–128.—Practice by novices in acquiring ability to walk a tight wire was recorded in learning curves that showed the usual irregular fluctuations, a deceleration after the thirtieth trial, and no plateaus. A wire 72 inches high required more trials for mastery than one 36 inches high, due presumably to greater emotional disturbance, as verbally expressed by some. Fairly high correlations were obtained between quickness in acquiring this skill and intelligence as indicated on the Army Alpha test.—*J. F. Dashiell* (North Carolina).

2151. **Kantorovich, N. W. [On the influence of fatigue ("mental" and locally physical) upon the associative reflex.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 172–179.—It was the object of this article to examine the influence of "mental" and physical fatigue upon a previously acquired durable and well differentiated associative reflex. In order to evoke mental fatigue in the subject complicated arithmetic was used. In order to examine the influence of physical fatigue, work with the dynamometer was used instead of arithmetic as a fatiguing factor. The experiments thus made admit of the following conclusions: (1) Work with the dynamometer has no perceptible effect on the associative reflex. (2) Our method of using complicated arithmetic as a fatiguing factor while testing the associative reflex before and after the fatigue proves to be useful for the objective study of the influence of "mental" fatigue upon the correlative activity. (3) In spite of the difference of the reaction of the subjects to "mental" fatigue we notice in all cases a disturbance of the correlative activity which finds its expression in the extinction of the associative reflex and the appearance of inadequate reflexes.—*A. L. Shnirman* (Leningrad).

2152. **Krilov, W. A. On the possibility of forming a conditioned reflex by means of a stimulus from the blood.** *Sbornik dedicated to the 75th jubilee of I. P. Pavlov*, Leningrad, 1924. Pp. 397–402.—Doses of morphine (0.04–0.08 c.c.) were injected under the skin of the hind legs of several dogs. After a few repetitions the characteristic responses to morphine (salivation, vomiting movements, defecation, closing the eyes, and falling asleep) became conditioned to a number of stimuli: thrusting with the needle, rubbing the place of injection with cotton, sight of the syringe, appearance of the experimenter and some others, when, instead of morphine, a physiological solution was injected, the cotton, sight of the syringe, appearance of the experimenter, and some others.

When, instead of morphine, a physiological solution was injected, the stimuli became unconditioned in an order reverse to that of conditioning. Differentiated conditioned reflexes were also established when one experimenter injected morphine and the other a physiological solution. The responses to stimuli of either situation, which were at first equal, became later differentiated. The experiments were partly repeated with chloral hydrate with similar results. The experiments are being continued.—*H. S. Razran* (Columbia).

2153. **Krzywanek, Fr. W., & Arnold, A. Der Anteil der roten Blutkorperchen im menschlichen Blut bei Ruhe und Bewegung.** (The proportion of the red corpuscles in human blood in rest and movement.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 640–643.—Bodily activity increases the blood corpuscle content of human blood, although not so greatly as has been found in horses and dogs by other investigators.—*L. T. Spencer* (Yale).

2154. **Osipova, V. N. [Indissoluble association reflexes in children.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1–2, 33–46.—On the basis of reflexological experiments carried out on different groups of children, the author has reached the conclusion that the law of "dissolving inhibition" cannot be applied in its entirety to associative-motor reflexes; on the contrary, extraordinary persistence and complete indissolubility of association reflexes are often observed (although association reflexes can be dissolved by the process of "differentiating inhibition"). In different groups of children variations of the motor response reactions were manifested in these experiments, and led to this principle: economical use of energy and few unnecessary movements in normal children, but uneconomical use of energy in easily stimulated ones.—*A. L. Shnirman* (Leningrad).

2155. **Podkopayev, N. A. Forming a conditioned reflex to an autonomic stimulus.** *Trudy physiologicheskikh laboratoryi akademika I. P. Pavlova.* Leningrad, 1926. Pp. 195–198.—A tone of a definite pitch was sounded on an organ pipe 2 minutes after an injection into a dog of 1 cc. of a 0.1% of apomorphin hydrochlorid. It was previously established that this particular dog began vomiting from 5½ to 6 minutes after the injection and showed symptoms of nausea (salivation, restlessness, rapid breathing) from 2½ to 3 minutes after the injection. A conditioned reflex to the tone was established after 202 repetitions. The author believes that the slowness of the formation of the conditioned reflex is due not to the nature of the unconditioned stimulus but to some defects of procedure, e.g., insufficient strengthening by the unconditioned stimulus, or too long pauses between the conditioned and unconditioned stimulus.—*H. S. Razran* (Columbia).

2156. **Regnault, J. La méthode d'Abrams.** (The method of Abrams.) Paris: Maloineè', 1927. Pp. 208. 20 frs.—The author explains Abrams' methods, which are but little known in Europe. He considers successively the question of visceral reflexes and electrotonic reactions, and the new methods connected with those of Abrams (those of Moner, Leprince, Starr-White, Boyd, MacManis, Bissky, Lakhovsky, Bonnaymé. No bibliography.—*Math. H. Piéron* (Sorbonne).

2157. **Sengupta, N. N., & Semanta, M. N. A study in involuntary movements.** *Indian J. Psychol.*, 1926, **1**, 223–232.—A kymograph record was taken of the tremors of the right middle finger in five normal subjects, the forearm being raised 40° to 50°, the elbow resting on a support. The amplitude of the tremors is described as about .2 mm., but the records were evaluated in terms of frequency per second; this ranged from 4.4 to 6.4, and was found to be relatively constant for the individual. Changes due to listening to music and to variations in the arm angle are of uncertain significance. Sherrington's theory of slight reflex contractions, enabling the maintenance of posture and tonus, is invoked to explain the tremors.—*R. R. Willoughby* (Clark).

2158. **Shevalev, E. [The associative-motor reflex of the knee.]** *Sbornik, psovyashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume), 1926, 105–124.—In associating the tendon reflex of the knee with the various sensory stimuli according to the procedure of Bekhterev, the author succeeded in setting up in seven adult subjects a very distinct and very fixed associative-motor reflex in the knee. In comparison with the reflex of the sole of the foot, the associative reflex of the knee, in the course of its establishment, presented certain peculiarities: it was characterized by considerable instability and disappeared easily under the influence of inhibition, internal as well as external; because of its relative instability the differentiation of the reflex is accomplished less quickly and is easily disturbed. The perfecting of the method of setting up this reflex renders a very great service to clinical practice, as much from the point of view of the detailed study of the peculiarities of the phenomenon as from that of more timely diagnosis of the organic disorders of the nervous system; for it is conceded that the loss of ability to set up the associative-motor reflexes of the knee precedes the disappearance of the simple reflex of the tendon of the knee—an important symptom of an organic disturbance.—*A. L. Shnirman* (Leningrad).

2159. **Shnirman, A. L. [Association reflex and dominance.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 144–158.—In the early stages of the training of the reflex of association and with some subjects also later on, the defensive motor reaction has the characteristics of dominance: (1) It is caused by every minor stimulation sufficiently strong. (2) It inhibits the other association reflexes, either partly or entirely. The phenomena of the so-called "active counteraction" or "personal effort" of the subject to hold back the association reflex (under the direction of the experimenter or independently) must be considered as a dominant action, since we observe in such cases a "reflex inversion." The meeting of the dominant of "active counteraction" with the defensive dominant—fundamental to the association reflex—becomes apparent in various characteristic motion cures of the hand (among others in the development of differentiation). In the process of the natural growth and differentiation of the association reflex, the development of the dominant of orientation (of concentration) is most important, being, however, antagonistic to the motor (defensive) dominant, which is fundamental to the association reflex. One may assume therefore that the mechanism of the process of differentiation is formed by the developing dominant of orientation, because of an involved inhibition of the defensive reflex.—*A. L. Shnirman* (Leningrad).

2160. **Shnirman, A. L. [On the influence of special stimuli upon the associative reflex.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 159–171.—A brief special sound-stimulus has an exciting influence on the formation of an associative reflex to light; it releases the fading reflex to a specific associative light-stimulus, and also other reflexes to other light-stimuli (disturbing differentiation in a number of cases). The enduring special sound stimulus in the form of a noise lasting from 5–10 seconds has a stimulating influence upon the associative reflex in accompanying light-stimulations; by this means the fading reflex is released and the differentiated one is generalized. The enduring musical extra-sound stimulus has a restraining influence upon the associative light-reflex in contributing to its extinction or differentiation (in case it was generalized). The peculiarities of the influence of the different musical associations are subject to individual variations; among the common peculiarities brought out by the experiments was a more marked restraining influence of the major triad than of the minor

triad; this, however, would need some further examination.—*A. L. Shnirman* (Leningrad).

2161. **Tinel, J. Etudes sur le pouls cérébral.** (Studies of the cerebral pulse.) *Encéph.*, 1927, **22**, 224–244.—Investigations made with trepanned subjects. Preliminary examinations of the sources of error: Variations in the attitude of the subject, variations by liquid transmissions, respiratory variations, passive variations aroused by the arterial tension. A study (with G. Dumas) of cerebral reactions to slight emotional shocks, to pain, and to attention. These vaso-motor reactions vary in one direction or another, not only according to the subjects and to the nature or intensity of excitation, but also for the same subject and for the same excitation, and very often one observes even for one single excitation a succession of two different reactions. Slight excitations, indifferent or pleasant, attention or surprise, stimulate perhaps more often vaso-dilation. Strong and prolonged excitations, painful or only unpleasant, arouse vaso-constriction. From these studies it likewise appears impossible to contest the existence of a vaso-motor system acting upon the cerebral circulation in the same manner as upon other regions.—*Math. H. Piéron* (Sorbonne).

2162. **Ukhtomski, A. [Drainage of excitations.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 48–58.—The analysis of "the law of connected irradiation" by Beritov shows that this is only a repetition of the hypothesis of the "inhibition by drainage." or of the "vicarious usage of nervous energy" (W. McDougall, 1903). In this recasting by Beritov, however, the drainage theory loses much of its original interest, as the author deprives it of its most valuable and vivid feature—dynamism. The continuous activity, the changing over to paths of least resistance, where the potential of the nervous system is discharged, as described by McDougall, is changed in the conception of Beritov to a system of mechanical domination of the path of least resistance—when once established—over the other paths. Thus this treatise by Beritov is not only a mere repetition but also a distortion of the hypothesis of McDougall.—*A. L. Shnirman* (Leningrad).

2163. **Vasilyv, L. L., Ananyv, G. N., & Plotnikova, E. E. [Work and dominance.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 16–30.—The present investigation is for the purpose of explaining the nervous mechanism of a simple act of work (work on a dynamograph). First of all a motor association reflex was perfected by the method of V. M. Bekhterev—a drawing back of the right hand from the contact at an electric sound or light signal. The observer laid the left hand on the trigger of the Lehmann dynamograph. The experimenter gave the command from time to time to practice a pressure on the dynamograph, and while the observer carried out the work with the left hand, the experimenter sent an electric current through the right hand, or produced an associative stimulus (sound, light). At the same time the dynamogram was registered on a kymograph, and the latent period of the simple and of the associative reflexes of the right hand measured. Such experiments were carried out several times on seven observers, and gave the following results: (1) With a submaximal pressure on the dynamograph the accessory stimulus, both the electrical and the associative, called forth, in the majority of observers (in 5 out of 7), a more or less strong rise of the curve, i.e., a strengthening of the performed work. This phenomenon corresponds perfectly to that which A. A. Ukhtomski designated as support of the dominance by different excitations (in the case given the dominance of the cortical motor centers of the working hand.) (2) With maximal pressure on the dynamograph the reverse effect was observed; in this case the same accessory stimulus (current, sound, light), gives a greater or less fall of the dynamogram. This weakening of a maximal work process, according to its strength, is explained

by the fact that the dominant excitation of the centers of the working hand goes over into the condition of the parabiotic inhibition, which comes about in consequence of an over-excitation of them by a strengthened impulse. (3) The average values of the latent period, for the electrocutaneous, as well as for the associative reflex, with all observers, were *higher* than the average values of the same reflexes when determined at a time when no work was being done. Consequently, the performed work-act delays the progress of simultaneous accessory reflexes—in other words, it inhibits them. The two characteristics of the dominance consist, however, in this, the so-called combined inhibition.—*A. L. Shnirman* (Leningrad).

2164. **Vetyukov, I. A. [Stimulation and inhibition in the heart of the frog in adonil poisoning.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 93–101.—The author investigated the effect of adonil poisoning on the heart and is convinced that adonil affects especially the organs of inhibition which are located in the heart. If the vagus is stimulated simultaneously by induction currents, one can readily observe parabiotic stages in the heart. Paralysis of the vagus endings (atropinisation of the heart) does not change the picture of adonil poisoning.—*A. L. Shnirman* (Leningrad).

2165. **Watson, J. B. The behaviorist looks at instincts.** *Harpers*, 1927, No. 926, 228–235.—The author denies the existence of instincts, instinctive tendencies, and inherited mental traits. The child is regarded as a mass of protoplasm capable of a great variety of responses, some of which become conditioned to certain stimuli. The similarity of behavior of different individuals occurring in the so-called instincts, is the result of similarity of environmental factors. The author denies the existence of inherited individual differences, racial differences, special abilities, etc., and explains the differences on the basis of early environmental influences. Heredity is ruled out as a causal factor in individual differences, and environment is regarded as the sole cause. The author believes, therefore, that there is no basis for the belief that the human race is deteriorating on account of the relatively greater birth rate among people of lower intelligence.—*J. R. Liggett* (California, So. Br.).

2166. **Weinland, J. D. Variability of performance in the curve of work.** *Arch. Psychol.*, 1927, **14**, No. 87. Pp. 68.—The monograph presents four studies of variability in the curve of work. Each part is preceded by an historical account. The four kinds of variability are (1) variation of performance at different stages of the work curve, (2) variation of performance among different work curves, made under the same conditions, (3) variation among individual muscular contractions, (4) variation of performance in the course of training. Some of the conclusions are as follows: Relative variability of output increases with fatigue. Variability of performance in beginning work can be affected by any one of a number of causes—previous work having been done, length of ensuing rest period, rhythm of work, load, etc. Individual differences in variability are considered important by the author; they are greatest at the low output end of the work curve. The increase in variability with fatigue is credited to loss of control rather than to exhaustion of muscle. Difficulty in keeping time to a metronome increases with continued work, the tendency being to lose time. Subjects do not always learn with practice to work in the most efficient way; this may be due to special conditions of the experiment. The degree of variability within the work curve appears to remain comparatively constant for a given individual, under particular working conditions.—*E. M. Achilles* (Columbia).

[See also abstracts 2095, 2127, 2129, 2130, 2136, 2138, 2139, 2142, 2169, 2211, 2263, 2266, 2275, 2276, 2303.]

PLANT AND ANIMAL BEHAVIOR

2167. **Abderhalden, E., & Wertheimer, E. Ernährung und Zellfunktionen. V. Das psychische Verhalten verschieden ernährter Ratten.** (Nutrition and cell-functions. V. The psychic behavior of differently nourished rats.) *Pflüg. Arch. f. d. ges. Physiol.*, 1927, **216**, 396–401.—Rats fed on a diet rich in albumen and weak in carbohydrates showed more spontaneous activity than rats whose diet was the reverse. They were also more resistant to alcohol poisoning.—*L. T. Spencer* (Yale).

2168. **Benedict, F. G., & Ritzman, E. G. The metabolism of the fasting steer.** *Publ. Carnegie Instit. Wash.*, 1927, No. 377. Pp. 245.—This is a carefully controlled investigation of the effect of fasting on the metabolism of the steer and includes, naturally, interesting facts concerning the behavior of this animal during fasts of from 5 to 14 days. A review of similar studies and earlier ones on starvation in large animals, beginning with the work of Magendie (1852), is included and critically evaluated.—*C. J. Warden* (Columbia).

2169. **Fearing, F. S., & Weymouth, F. W. A non-electrical rotation table for laboratory animals.** *J. Exper. Psychol.*, 1926, **9**, 67–70.—Description of a rotation table operated by means of falling weights, similar to Maxwell's table (*Amer. J. Physiol.*, 1922). This particular table gave 10 turns in 20 sec. at constant speed; the acceleration occurred in the first quarter-turn.—*F. A. Pattie* (Harvard).

2170. **Higginson, G. D. Visual perception in the white rat.** *J. Exper. Psychol.*, 1926, **9**, 337–347.—An attempt by show by means of an experiment and a discussion of the literature that "the visual capabilities of the rat are greater than men usually recognize" and that visual clues play a part in orientation. A circular maze was so modified that a door into an alley was found open by the animal only after it had run to the end of a cul-de-sac and returned. After 100 trials in this modified maze the door was removed. Of the 9 animals used, only 4 went to the end of the cul-de-sac before entering the alley formerly shut off with the door, and these shifted to the shorter path immediately. "This sudden elimination of six feet from the total pathway set up under continued repetition is wholly inexplicable in the usual categories of 'kinesthetic pattern' and 'frequency and recency' of performance."—*F. A. Pattie* (Harvard).

2171. **Rabaud, E. L'instinct maternel chez quelques araignées.** (The maternal instinct in certain spiders.) *C. r. Soc. biol.*, 1927, **96**, 779–780.—A report of investigations made with Lycosids and Thomisids. Concerning the interchangeability of egg-sacs and other objects with each other, the author observed that *Lycosa radiata* does not take a ball of cork. She does take an egg-sac from *Lycosa lacinosa*, but abandons it immediately. She accepts and keeps indefinitely a ball of cork which is covered with a fragment of an egg-sac from *Uroctea duranti*. After a general fashion the attention seems to be drawn more to the substance of the cover than to its contents. What is the physiological state of the spider which has just laid eggs or which is going to lay eggs? There seems to be a modification of sensitivity in the nervous system revived or maintained by the permanent contact of the bag with the spinneret. Contrary to Fabre's statements, the author found that the sac clings to the gossamer the moment hatching takes place. The young themselves create the opening by which they leave. If the eggs are incompletely developed, the female keeps the sac at her spinneret well beyond the normal period.—*Math. H. Piéron* (Sorbonne).

2172. **Rabaud, E. L'orientation lointaine et la reconnaissance des lieux.** (Distant orientation and the recognition of places.) Paris: Alcan, 1927. Pp. 112. 16 fr.—Animals such as ants, birds, and bees, that leave their dwelling places in play, come and go in all directions, attending to their business; then,

after a longer or shorter time, they return directly to their dwelling. How do they find their way back? There are two possible hypotheses. The first supposes that the animal is endowed with an extremely sensitive internal sense, which renders it capable of a veritable divination. The second invokes the ordinary senses of the animal. In this case the animal would utilize one or more organs of the known senses, or it would utilize a special sensitiveness which permits the animal to perceive components of its environment which are imperceptible to man. The author discusses first the orientation of flying insects (locomotion in a general direction, the hypothesis of the internal senses, sensory land-marks, the return flight, the recognition of the location of the nest when the nest is not perceptible, the recognition of the nest when it is independent of the place, the rôle of olfactory land-marks.) He then reviews orientation in the creeping invertebrates (the ants, collective journeys, the rôle of smell, intervention of sight, solitary ants.) He then studies the orientation of other invertebrates (the termites, the olfactory track, the mollusks, the limpets, and tactile land-marks.) Finally he discusses the orientation of vertebrates (the homing pigeon, the magnetic sense, sensory land-marks, nocturnal changes of place.) The author believes he has to conclude that the facts established by experiment or well conducted observations require that one relate the phenomena of orientation and of the recognition of place to the process of sensory memory aroused by the ordinary organs of sense. A bibliography of 71 titles is given.—*Math. H. Piéron* (Sorbonne).

2173. **Rode, P. Sensibilité de la ligne latérale aux vibrations.** (Sensitivity of the lateral line to vibration.) *C. r. Soc. biol.*, 1927, **96**, 864–866.—Fish with free sensory organs at the surface of the skin (e.g., stickleback) perceive vibrations; fish with skin covered by scales are insensitive to them. The lateral apparatus is sensitive to the vibrations, but concurrently with the auditory apparatus, and the author could not verify the number 6 indicated by Parker as the frequency at which fish perceive vibrations, since his animals reacted to a frequency of 4 to the second.—*Math. H. Piéron* (Sorbonne).

2174. **Rousseau, R. J. Des machines qui pensent.** (Machines which think.) *La nature*, 1927, No. 2761, 455–457.—Outline of a "cephalotrieur," invented by C. Bussard, to be used in the study of the reactions of animals to external stimuli, which conceals the experimenter completely. It consists of a glazed cage whose floor is half dark and half bright. Each part carries a small electric grill formed by two copper wires set two millimeters apart, covering the floor entirely. On one of the large sides of the cage is a blackened box, at the bottom of which is a bright disc that can be illuminated through an electric projector and that is visible from all points of the cage. On the upper part a rotary apparatus, whose speed can be controlled, conceals and displays the bright disc. One can make regular or irregular changes of illumination in the order desired by the experimenter. The circuits are such that the part of the floor which is not of the same color as the disc visible to the animal is electrified. The animal must then learn always to go upon this part of the ground which corresponds to the presented light in order not to be shocked. The apparatus registers all the movements of the subject, together with the changes of the luminous discs. With this apparatus the author has trained rats and guinea pigs, attempting to utilize the animals in the handling of simple machines for tasks to which the most perfected machines cannot respond, as for example the task of sorting objects which differ only in color or odor. It takes mind to make the choice, but there is no need of human intelligence for this disagreeable task. With the apparatus of Bussard it should be easy to utilize a group of trained animals.—*Math. H. Piéron* (Sorbonne).

[See also abstracts 2145, 2148, 2164.]

EVOLUTION AND HEREDITY

2175. **Dahlberg, G. Twin births and twins from a hereditary point of view.** Stockholm: Bokförlags-A.-B. Tidens Tryckeri, 1926. Pp. 296 + 85.—The author presents a work of great thoroughness, both historically and analytically. His own material consists of anthropometric measurements of 243 pairs of twins, 102 from Gotland, 78 from Stockholm, and the remainder from other sections of Sweden. Some of the more outstanding conclusions of Part I follow: Twin frequency rises with mother's age, but not with birth number as such; there is a somewhat stronger tendency to twinning in Nordic races; about 15% of mothers have the twinning tendency, and for each birth their chance of twinning is about 10%. A chapter on the principles governing the distribution of a hereditary character in a population presents formulas for the proportions of homozygotes, heterozygotes, etc., which, however, are based upon several simplifying assumptions, such as mating at random, complete dominance, and a single factor-pair (more work on the last point is promised). Part II sets forth the criteria for monozygotism (not including the examination of uterine structures). The following reasoning leads to a separation of hereditary from environmental influences: (1) the variability of monozygotic twins is due only to errors of measurement plus environment, heredity being the same (one minor exception possible, but not largely effective in any case); (2) that of dizygotic same-sex twins is due to measurement errors, environment and heredity; (3) that of dizygotic opposite-sex twins to these plus sex factors; (4) these influences are uncorrelated; (5) the errors of measurement and the total variabilities can be found; (6) the relation $\sigma = \sqrt{\sigma_1^2 + \sigma_2^2}$ yields the unknown factors. Also, the "standard deviation of the individual from the average in a population" (standard deviation of deviations of individuals from the average?) has been calculated for each of the three factors. The results are as follows, expressed in "pro mille" of the corresponding measurements:

Environment	Head measurements	Body measurements	Both
Average of σ's			15.4
Range of σ's	5–15	10–30	7.5–27.1
Heredity			
Average			30.2
Range	20–30	25–35	22.8–36.5
Sex factors			
Average			24.7
Range	20–30	20–40	14.5–38.6

There seems to be a slight increase in the effect of environment with age; there is no evidence for a sex difference in environmental variability, but the women are perhaps slightly more variable from heredity, possibly due to the extra (X) chromosome. Fourteen pages of references are given, largely from the German; an appendix presents the measurement data complete, photographs of the twins studied, and selected photographs of ears, showing their diagnostic value as criteria for monozygotism.—*R. R. Willoughby* (Clark).

2176. **Marie, A., & Marie, V. Psychose gémellaire homologue et homochrone.** (Homologous and homochronous twin psychosis.) *Bull. Soc. méd. ment.*, 1927, **20**, 6–10.—Case of two female twins who have both shown a delusion of persecution on the soil of senile involution. They were interned for the same reason, the one at the age of 69, the other at the age of 73. This case corresponds at the same time to the type of "twin madness" of Ball and of the "simultaneous madness" of Régis. It can not be that the psychosis started

through imitation, suggestion, or contagion, since these two sisters had not seen each other for 20 years. There is, then, only one interpretation which seems possible—similar heredity in the identical evolution of identical psychic symptoms.—*Math. H. Piéron* (Sorbonne).

2177. **Sadler, W. S. The truth about heredity: a concise explanation of heredity written for the layman.** Chicago: McClurg, 1927. Pp. xiii + 512. $2.50.—This book is the second in a series of five volumes which the author plans to write on the question of race hygiene. The first, "Race decadence," has already appeared, and those still to come are: "Are all men born equal?", "Race betterment," and "American problems." In the present volume the author proposes to examine carefully the whole subject of inheritance and so to present this to the layman that he may discern the significance and purport of this knowledge in connection with human life. Having pointed out in "Race decadence" that "we have so fully overcome the laws of 'natural selection,' which nature ordained for the elimination of the weak and the preservation of the strong, that at the present time the human race, particularly the white race, is temporarily on the down grade , . . . and that the inheritance tendency of the race is either stationary or slightly downward," Sadler concludes in this volume that we now know enough of the laws of human heredity "to warrant us in beginning that agitation and education which shall subsequently lead to concrete efforts to restrict the uncontrolled multiplication of degenerates and defectives within our midst." Heredity, "that particular form and organization of life which parents transmit to their offspring," forms the fundamental base of the triangle of life of which environment and training form the other two sides. While written in a popular form, the material presented in this volume is scientific. The author begins with a historical survey of the theories of genetics from the time of the early Greek philosophers. Reproduction and heredity, the mechanism of inheritance, the function of the chromosomes, and the phenomenon of development are first discussed. Following this the outstanding theories are treated, viz., those of Darwin, Mendel, Weismann, Lamarck and DeVries, and in connection with the problems raised by these theories, a great deal of recent experimentation is discussed; included here are the studies of McDougall, Morgan, Jennings, Johannsen, Kammerer, etc., etc. A glossary of 15 pages and a bibliography of some 70 titles conclude the study.—*L. M. Harden* (Clark)

[See also abstracts 2198, 2267, 2271.]

SPECIAL MENTAL CONDITIONS

2178. **Alexander, S. The creative process in the artist's mind.** *Brit. J. Psychol. (Gen. Sect.)*, 1927, **17**, 305–321.—In artistic creation an artist starts with some subject matter. This produces in him an excitement which is distinguishable from, though dependent on, the emotions or thoughts which the subject matter arouses. From this excitement issues the work of art, but what the work of art will be, the artist himself cannot say. It is highly improbable that he has an image of the finished product till the end. The work of art has already been produced if there is complete anticipation.—*H. Banister* (Cambridge).

2179. **Bose, G. The free association method in psycho-analysis.** *Indian J. Psychol.*, 1926, **1**, 187–199.—An Indian analyst presents a description of the method, with examples from his practice, and a statement of its therapeutic significance.—*R. R. Willoughby* (Clark).

2180. **Brukhanski, N. [The question of psychic contagion.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 4–5, 278–291.—The author describes in detail a case of a psychic epidemic in the province of Moscow. The analysis of this case, as well as of some other cases described by the author, clearly demonstrates the influence of economic and cultural conditions on the development of psychic epidemics, their forms and content of ideas. Neuropathic predisposition may not necessarily be present (insomnia, alcohol).—*A. L. Shnirman* (Leningrad).

2181. **Ceillier, A. Recherches sur l'automatisme psychique.** (Investigations of psychic automatism.) *Encéph.*, 1927, **22**, 272–297.—The work has four parts: (1) A short analysis of some contemporary works, particularly those of Seglas. (2) A criticism of the theories of de Clérambault and Heuyer on mental automatism. The author rejects the word "automatism" in its etymological sense, i.e., movements whose cause is within the reacting organism. The definition here adopted is the following: Psychical automatism consists in the involuntary reproduction of a phenomenon which heretofore has occurred voluntarily. (3) A study of psychical automatism. The feeling underlying automatism is a primitive one and goes far beyond the so-called automatic phenomena. The starting point of this feeling lies in the modification of affectivity by the mechanism of the affective contrast at the basis of the disappropriation of the ego. (4) A pathogenic study of the sensation of automatism.—*Math. H. Piéron* (Sorbonne).

2182. **Chavigny, P. L'esprit de contradiction, ses manifestations individuelles et collectives.** (The spirit of contradiction, its individual and collective manifestations.) Paris: Rivière, 1927. Pp. 160. 8 frs.—This is primarily a practical study. The spirit of contradiction constitutes the basis of one of the most current types of human mind; it is also one of the types which is most easily worked upon when one is prejudiced. It consists in that habitual reaction which some individuals possess of supporting the opposite of any opinion expressed to them. The author studies in turn: (1) The individual manifestations of the spirit of contradiction (the spirit of contradiction and the negativistic disposition, its frequency and its characteristics, its practical nonproductivity, its development and the aspect which it presents in pathological states, and its educational prophylaxis); and (2) the group manifestations (the crowd and the spirit of contradiction, the homogeneous group, i.e., " caste, profession, etc.," and the spirit of contradiction). A bibliography of 30 titles concludes the book.—*Math. H. Piéron* (Sorbonne).

2183. **Conklin, E. S. The determination of normal extravert-introvert interest differences.** *Ped. Sem.*, 1927, **34**, 28–37.—On the theoretical assumption that normal extraversion and introversion extremes are due to differences in the kind of conditions controlling attention, a test was constructed listing forty proposals in infinitive forms, the examinee to indicate in each case by degree his liking or disliking, and his final score being obtained as the ratio of the total extravert to the total introvert choices. The author found this ratio to be differentiating for certain academic and non-academic occupational groups. Individual cases in student advisory work were analyzed profitably.—*J. F. Dashiell* (North Carolina).

2184. **Freud, S. Some psychological consequences of the anatomical distinction between the sexes.** *Int. J. Psychoanal.*, 1927, **8**, 133–142.—Touching closely the work of Abraham, Horney and Deutsch, Freud puts forward the following tentative conclusions. From analytic evidence Freud infers that the little girl's first observation of the boy's penis has important consequences: the formation of a masculinity complex (the core of truth in Adler's theory), the reinforcement of envy and jealousy, the loosening of the tie to the mother,

who is held responsible for the observed difference in the genitals, and the tendency that women show to tolerate masturbation worse than men. This feeling in the girl child against masturbation is to be regarded as part of the wave of repression which at puberty will do away with a large part of the girl's masculine sexuality. The girl's castration complex makes it possible for her to form the Oedipus complex. In boys, on the contrary, the Oedipus complex succumbs to the castration complex, which by father identification leads to a more inexorable ethical ideal than is usually found in the woman, who as a girl either slowly abandoned or repressed her Oedipus complex, which thus remained effective in later mental life.—*C. Moxon* (San Francisco).

2185. **Guthrie, E. R. Measuring introversion and extroversion.** *J. Abn. & Soc. Psychol.*, 1927, **22**, 82–88.—Academic psychologists have undertaken to clarify the rather vague and shifting meaning given to the terms "introversion" and "extroversion" by Freudian writers, but little has been done to establish the objective existence of these types, or of scales with these extremes. The existence of such traits, and their measurement, the application of a scale of measurement to college students who offer few cases of extreme abnormality, and the relation of such measurements to intelligence and scholarship are questions to which answer is sought. Six radically different tests, covering intelligence, scholarship, and four proposed measures of introversion-extroversion were given to 365 University of Washington students, and the scores were compared. The data show that scholarship bears no marked relationship to campus information, though both of these have about the same slight correlation with intelligence per centile. Scholarship has an almost negligible relationship to the four possible measures of introversion-extroversion, and no one of these measures shows any appreciable correlation with any other, although all measures used had substantial reliabilities. If either scholarship, or rapport with current gossip, or a tendency to conform to group judgment of persons, or a tendency to conform to common verbal associations, or to answer personal questions as others do, is a measure of extroversion, it would seem that no one of the others can be. The common use and application of these epithets to normal persons should be avoided until we are much more certain of our ground.—*E. N. Brush* (Boston Psychopathic Hospital).

2186. **Hinkle, B. M., Watson, J. B., & Collins, J. Explaining women.** *Nation*, 1927, **125**, 8–11.—In separate articles the authors briefly give their analyses of anonymous biographical articles written by distinguished modern women and recently published by *The Nation*. Dr. Hinkle believes that the basic conditions for the growth of their feminism was a comparatively free family environment, in which a strong "feminist" mother was usually the dominating factor, together with certain collective restrictions which caused revolt. Though it is impossible to analyze characters on the basis of what they themselves remember and choose to tell, Dr. Hinkle gathers from the things which they conceal that few, if any, of them have achieved inner freedom. Watson believes that the "weakness of women" who seek careers is caused by the fact that women have never been trained in the technique of work and in habits of endurance. They seek "freedom" because they have never made a sex adjustment. Collins makes the charge that most of the women are neglecting their purpose in life, which is to "be fruitful and multiply"; and implies that since they deny themselves children they bring about mental and emotional disharmony.—*M. Goodrie* (Clark).

2187. **Kasachenko-Trirodov, N. P. [Concerning psychotherapy in hysteria gravis (Klikushestvo).]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology, and reflexology), 1926, No. 4–5, 292–294.—The author describes a case of hysteria gravis where deep hypnotic sleep gave favor-

able results. Other hypnotic forms (lethargic, cataleptic, somnambulistic and hyperkinetic-automatic) proved impracticable.—*A. L. Shnirman* (Leningrad).

2188. **Lampl, H. Contributions to case history. A case of borrowed sense of guilt.** *Int. J. Psychoanal.*, 1927, **8**, 143–158.—The patient's primary sense of guilt for his Oedipus wish is intensified by identification with his father, who brought into the home a pupil as his mistress. The patient over-compensated his castration anxiety by a long series of sexual affairs, and punished himself by contriving unconsciously to become poor, and by adopting a moral masochistic attitude to life. The analysis removed his symptoms, including his sexual over-excitability.—*C. Moxon* (San Francisco).

2189. **Meyer, M. F. Abnormal psychology.** Columbia, Mo.: Lucas, 1927. Pp. viii + 278. $2.50.—This book is for a first psychology course for medical students or a second course for the student in liberal arts who has had an introductory course in psychology. It is based on the author's "Psychology of the other-one" and Pierre Janet's "Major symptoms of hysteria." Abnormal psychology is defined as the study of the more astonishing facts of normal psychology. The fundamental factors in normal psychology are given as: (1) Reflexes. (2) Concertedness of action. (3) Preoccupation. (4) Deflection. (5) Susceptibility of neurons. (6) Generalization. Under the first factor we find a discussion of what constitutes the normal reflex equipment of a living being. Under the second factor, an action is held to be dependent on the time and order of stimulation, and the architectural possibilities of interconnections between reflexes. The third factor (preoccupation) emphasizes the fact that an animal is an *occupied*, that is, an *active* being. "Preoccupation may be explained hypothetically by the temporary contact improvement in the synapses . . . this improvement does *not normally last longer than a few minutes*" (p. 49). In this respect it is specifically distinct from habit formation which is the observed symptom corresponding to an essentially *permanent* reduction in resistance. Deflection, the fourth factor, refers to the condition when a stronger (nervous) current tends to draw a simultaneously flowing weaker one partially or even entirely into itself (p. 54). "The deflecting current is truly strengthened at the expense of the deflected" (p. 57). Deflection is not to be confused with the terms drainage and inhibition, as variously used by many writers. The fifth fundamental factor is "the susceptibility of the neurons to their functioning, in consequence of which they are much later found to possess a conductivity by far greater than their original conductivity" (p. 58). This slow but lasting change in conductivity as a biochemical property may be compared with that in the development of immunity against disease. The sixth general factor (generalization and abstraction) is essentially a speech sensory-motor mechanism, both implicit and explicit, through which man has built up his system of symbolic reactions. Generalization presupposes very high centers, although the alternative that muscle fibers may themselves function in place of higher nerve centers is presented. From these six structural and functional principles of behavior Meyer maintains that one may "*deduce possible abnormalities* depending on inherited features in the nervous system of the individual; or, taking certain abnormalities as observed, to *induce from* the presentation of such abnormal facts the laws and conditions by which they may be explained" (p. 41). The next thirteen chapters deal with the usual topics of abnormal psychology discussed from the theoretical standpoint of the author. Beginning with anatomical abnormalities in the reflex and instinctive equipments, the author passes to the physiologic-chemical abnormalities in the reflex equipment, among which epilepsy and alternating mania and depression represent extremes. Abnormal weakness of preoccupation goes with a lack of temporal and spatial orientation, and a lack of social coöperation. Hypnotism is intentional "preoccupation

favoring a certain posture," which further includes sleep, the various amnesias of the post-hypnotic type, somnambulism, fugues, syncope, monoideic preoccupation, alternating personalities, wasted reactions (emotions), convulsions, hysterogenic points, ties, choreas, tremors, automatic writing, contractures, katatonia. On page 169 is found a diagram illustrating the distinction between sensory and motor preoccupations. Following a discussion of the general characteristics of hysteria and its relation to the nervous system, hysteria is defined as "a reaction of the organism *abnormally* unwarranted by the actual stimulation" (p. 206). This abstract definition is exemplified by a critical comparison between normal "lying" and hysterical symptoms. From the chapter "Cures of hysteria" we learn that abnormal proneness toward preoccupation is an hereditary feature for which there is no cure. It occurs in spells and during a spell any so-called cure consists only in substituting for one socially troublesome preoccupation, another which is not (or is less) socially troublesome. These are the transfers or equivalence of the psychiatrists. If any preoccupation is socially not troublesome, it cannot be regarded as an individual defect at all. On the contrary, it may be the greatest contributing factor toward a great individual achievement. Hysteria constitutes a sociological problem centered around the activities of securing shelter, food, and the company of the other sex. Psychoanalysis is valuable because it is a method of finding out the conditions in the past which determine the patient's present and particular abnormal preoccupation. The various types of aphasia, neurasthenia, psychasthenia, the dementias, paranoia, religious and philosophic delusions, are grouped under abnormalities due to abnormal "susceptibility to conduction" of neurons, with consequent habit formation or the loss of habits already formed. The confusion resulting from the use of subjective terminology is given special consideration. Dreams are described as those actions (that is, nervous functions with their visible consequences) which an individual performs while asleep or in a condition similar to sleep. The influence of drugs is principally upon the three biochemical properties of conductivity, contact resistance, and susceptibility of the nervous tissue. Drugs that acutely increase conductivity (tobacco, coffee, tea) are stimulants; those that decrease conductivity (opium, cocaine, alcohol) are narcotics. The differentiation between narcotics and stimulants should be read in the original. The author's greatest contribution is his effort to place psychiatry and abnormal psychology upon an objective and strictly scientific basis. There are in this book so many original ideas and the hypothetical principles which are proposed are so new that this system constitutes a challenge to all investigators both in general and abnormal psychology.—*A. P. Weiss* (Ohio State).

2190. **Prince, W. F. The case of Patience Worth. A critical study of certain unusual phenomena.** Boston: Boston Society for Psychical Research, 1927. Pp. 509. $4.50.—The literature produced by Patience Worth first came through the hands of Mrs. Pearl Lenore Curran at the ouija board in 1913, when she was 31. In later years she has been able to dictate for P. W. The author of this study finds quite unsatisfactory all previous attempts to explain the work of P. W. as an automatic or subliminal personality of Mrs. Curran. Hypnotism has been refused by Mrs. Curran herself, as she feared she would thereby suffer loss of her literary capacity. Prince rejects the suggestion of Charles E. Cory (*Psychol. Rev.*, Sept. 1919) that "the full history of this illusion (that P. W. is the discarnate spirit of an English woman who lived in an age long since passed) can be secured only by psychoanalysis." Cory suggests that P. W. is a "dreamer that never awakens" (p. 434). The method of her work, as Mrs. Curran describes it, shows (1) that "she is overwhelmed, in a single flash, with the entire framework of a story" (p. 396), as was Mozart

with an entire symphony, and (2) that she has vivid visual imagery, and lasting memory thereof, like those of some remarkable chess players who can carry on simultaneously, and while blindfolded, a large number of games. She can return again and again, and without any reference to the last dictation, carry on as if there had been no interruption. She describes an absence of fatigue, in this work for P. W., which reminds one of Waller's experiments in alternating voluntary and electric innervations of the same musculature. Complete exhaustion (fatigue) to each sort of stimulation, in turn, was found to have been accompanied by a renewed capacity for stimulation of the other variety. Dream work does not fatigue. Mrs. Curran says there is no sharp division between her consciousness and P. W.'s (p. 398). She describes an "uncanny familiarity with things she has never known" (cf. the illusion of *déjà vue*) which whets the interest of the student of psychology. This points the way to a scientific analysis of Mrs. Curran's personality, granted her coöperation could be obtained. Such an analysis would unquestionably lead to important modification of all current concepts of subliminal consciousness, and there are many of them.—*T. H. Haines* (New York).

2191. **Reich, W. A hysterical psychosis in statu nascendi.** *Int. J. Psychoanal.*, 1927, **8**, 159–173.—The author calls the nineteen year old patient a hysteric and yet feels from the first her autistic, schizophrenic character. The traumatic repression of her genital libido in childhood caused a regression to the oral stage, (e.g. mutism, rubbing breasts). When the analyst sent her away to a laryngologist she developed a psychotic dissociation. Reich considers the classical passive, Freudian technique he used in this case to have been inadequate. There ought to have been a daily analysis of the transference as urged by Ferenczi and especially by Rank, and also more analysis of the defective ego to enable it to deal with the irruption of repressed material.—*C. Moxon* (San Francisco).

2192. **Robin, G. Les indications de la psychanalyse.** (Indications for psychoanalysis.) *Gaz. des hôp.*, 1927, **100**, 589–593.—Excellent method of treatment in the following affections: perversions, schizoid-paranoic manifestations, and especially in the immense field of psychoneuroses.—*Math. H. Piéron* (Sorbonne).

2193. **Taylor, W. S. Characteristics of the neurotically predisposed.** *J. Abn. & Soc. Psychol.*, 1926, **20**, 377–383.—A. F. Riggs lists the special characteristics of the so-called psychoneurotic as follows: (1) oversensitiveness to emotions and sensations; (2) relative imbalance of instincts; (3) suggestibility with a tendency to dissociation of function; and (4) character faults resulting in an egoistic type of maladaptation. This classification suggests a number of points which the writer discusses. Oversensitiveness may be used in socially useful ways; it may be associated with superior intellectual and imaginative capacities. Manifestations of sensitiveness may be great impressionability, which does not necessarily mean inferiority of nervous organization. Another aspect or variety of sensitiveness is great emotionality. Dissociability appears as the common basis of all morbid sensitiveness, or pathological oversensitiveness, and of all abnormal suggestibility. Relative imbalance of instincts is evidently unfavorable to any tendency to dissociation, and likewise dissociation or any maladjustment predisposes to manifestation of imbalance of fundamental urges. Small personality defects start a vicious circle, weakening stability, and if any dissociation occurs, bringing further dissociation. In marrying, neurotics are disposed to "fractional mating," that is, to be attracted to persons satisfying only a portion of the personality. This is likely to bring discontentment, and an unhealthy emotional environment for children. Thus neurotic conditions tend to perpetuate themselves. Specific neuroses are con-

tagious, but more as nervous habits than as subconscious phenomena.—*E. N. Brush* (Boston Psychopathic Hospital).

2194. **van Rynberk, G. Mouvements rythmiques dans le rève comme symbole des mouvements du coeur.** (Rhythmic movements in dreams as a sign of heart action.) *Encéph.*, 1927, **22**, 270–271.—Treats of dreams which contain a rhythmic movement and end with a sensation of pain, which does not continue when the subject awakens.—*Math. H. Piéron* (Sorbonne).

2195. **von Gruber, M. Hygiene of sex.** Baltimore: Williams & Wilkins, 1926. Pp. xii + 174.—The University of Munich professor of hygiene essays a brief statement of the conservative position in sexual ethics, embellished with numerous physiological opinions, based mostly on "the teachings of experience," but partly on scientific evidence. Both publisher (responsible for translation into English) and author appear to be of the opinion that the work is unusually frank, and therefore unsafe for general consumption unless surrounded with much "moral philosophy"; e.g., it is "commended" as having a "correct" approach, but "certain portions" have been omitted; and the author earnestly requests persons "hitherto unaware of the sexual instinct" who encounter the book, to "restrain their curiosity, and by laying it aside unread demonstrate thus the inherent strength that is within them." Thereupon follows the first chapter—on the mechanism of fertilization, karyokinesis, etc. "Heredity and breeding" is a eugenically colored elementary account of Mendelian principles, containing among others the statements (1) that women with poorly developed breasts and hips are less suited for reproduction than feeble-minded and lepers, and (2) that poor teeth and inability to nurse one's children "very frequently occur together." "The organs of sex" contains the two standard cuts. In "The sexual instinct" the author takes the position that sex gratification is not necessary for health, and clinches his argument thus: "Of all this there can be no discussion; it is an established fact." "Results of sexual excess," if not persisted in, are serious only for the very old and young. "The limitation of conception" should be avoided except where heredity or economic considerations indicate it. Homosexualists should be put under social pressure, but masturbation is dangerous chiefly to the young. "Venereal diseases" are discussed in detail. "Marriage or free love" is a passionate defense of the traditional ideal against (among other things) "the new-fangled 'away-from-home working-for-support' programs of the women." —*R. R. Willoughby* (Clark).

[See also abstracts 2164, 2261, 2268.]

NERVOUS AND MENTAL DISORDERS

2196. **Anderson, W. K. Malarial psychoses and neuroses.** London: Oxford, 1927. Pp. 395. 42s.—A survey and review of the field from medical, psychiatric and medico-legal standpoints. The underlying pathology of the malarial psychoses and neuroses consists in the blood changes in lesions of the central nervous system, subdivided into those of vascular origin (embolism, thrombosis, proliferation of endothelium, etc.) and those of inflammatory origin (inflammatory, degenerative or necrotic changes of the neurocytes or proliferation of neuroglia), and in the less-understood pathology of the vegetative system and the endocrines. Coma is the commonest form of acute cerebral malaria. It is usually associated with a massing of parasites and pigment in the cerebral capillaries, with capillary thrombosis or embolism, or with intracranial hemorrhages, either punctiform or large. The malarial psychoses are often sudden in onset and usually begin with a confusional state, intermittent or con-

tinuous, in which torpor, psychomotor retardation and automatic actions are prominent. The average duration of the confusional state is 1–2 weeks. Severe cases tend to become chronic, to pass into another psychotic state, or at least to leave a residuum, usually in the form of loss of intellectual capacity, varying in degree from slight loss of acuity to complete dementia. In this residual defect the intellect is usually much more affected than the moral sense or the emotional nature. Next in incidence to confusional insanity, and like the other malarial psychotic states commonly emerging from it, is melancholia, frequently suicidal. Here the outstanding feature is failure of affective tone. Hallucinations and delusions may occur, but are secondary in nature. Delusional insanity is most commonly of a persecutory nature, and is of great medico-legal importance because of the frequent suicidal and homicidal attempts. Clinical dementia praecox is observed with a brain pathology of ameboid hyperplasia of neuroglia cells around the neurocytes, and morbid new formation of fibers encircling them, which, as Mott has suggested, may account for the dissociation. Mania, when it occurs (which is comparatively rarely) usually does so in the primary attack and seems to be due to the parasite or a poisonous product acting as a local irritant upon the central nervous system. Dementia appears in all degrees, including dementia paralytica (malarial). The latter is rare and has no special features. Amnesia ("West Coast memory") is frequent and may be either retrograde or anterograde (with defective attention). Neurasthenia is found most commonly as a residuum in old cases. Psychasthenia, hysteria, chorea, epilepsy, exhaustion psychosis, stupor, and symptoms of local neurological lesions (aphasia, paraplegia, optic atrophy) on a malarial basis are all observed. The prognosis in malarial psychoses and neuroses, though depending of course on the degree and duration of central nervous system pathology, is usually good with proper treatment. The author gives an analysis of 131 cases of malarial psychoses of his own, excellent plates of histo-pathology and an extensive bibliography. There is considerable repetition.—*R. Jenkins* (Institute for Juvenile Research).

2197. **Bekhterev, V. M. [Pseudopolymyelia paraesthetica in the form of illusory members.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, 4–5, 236–241.—In lesions in the course of centripetal conduction paths which run from the periphery to the brain centers and serve to determine the position of the members, pseudo-polymyelia may occur in the form of physical illusions (illusory presence of supernumerary parts of the body, hands, feet, head). In some cases these illusory members remain motionless while in others they may be set in motion; accordingly we may distinguish between a passive and active polymyelia.—*A. L. Shnirman* (Leningrad).

2198. **Bianchi, L. [A contribution to the knowledge of microcephalia.]** *Sbornik, psovashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume), 1926, 183–194.—The author describes a microcephalic brain. This brain, belonging to a sister of another microcephalus whose case was reported in the "Treatise on psychiatry" by the same author, offers many contributions on the defective development: the inner surface of the hemispheres resembles that of a lower form, such as that of the brain of a sheep; the extreme smallness of the temporal lobe and the shortness and slope of the fissure of Sylvius strongly resemble those of the brain of the ordinary ape; the lack of a definite division between the temporal convolutions, especially the fusion of the inferior temporal convolution with the hippocampus, and, finally, the almost total absence of the third frontal convolution are such as are found in the brain of the *Cebus*. The author concludes that the human brain has not only been arrested in a phase of its development in relation

to the race to which it belongs, but has deviated in its morphology in such a manner as to produce the characteristics and forms which have long since disappeared in the developmental process of man.—*A. L. Shnirman* (Leningrad).

2199. **Borisov, A. N. [Three cases of tumors of the corpus callosum.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 1–2, 46–56.—The cases investigated and fully described by the author showed trophic disturbance of the brain cells, disturbances of sensitivity, and in one case the "thalamic syndrome," which is considered very rare. The author also found in all cases psychic disturbances in the form of a regular but slight retardation of general psychic activity.—*A. L. Shnirman* (Leningrad).

2200. **Buscaino, V. [The "plaques à grappes de désintegration."]** *Sbornik, posvyashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume). Leningrad, 1926. Pp. 217–222.—According to the researches of the author, the "plaques à grappes de désintegration" are the histological expression of a poisoning of the central nervous system by substances of an ammoniacal derivation (amines). Dementia praecox, mental confusion, and the extrapyramidal post- and non-postencephalitic syndromes are the clinical expression of the same thing.—*A. Shnirman* (Leningrad).

2201. **Claude, H., Baruck, H., & Aubry, M. Les troubles vestibulaires dans la démence précoce catatonique.** (Vestibular disorders in catatonic dementia praecox). *C. r. Soc. biol.*, 1927, **96**, 1376–1378.—An investigation of the labyrinthine disorders of 13 dementia praecox patients by means of the galvanic test, in most cases controlled by the caloric test. An examination was made of subjective phenomena (vertigo, paleness of face, nausea) and of movements (nystagmus, Romberg position, segmental displacement). There may be in dementia praecox a considerable diminution or even a total abolition of labyrinthine excitability, modifications which are established only in the catatonic form.—***Math.*** *H. Piéron* (Sorbonne).

2202. **Codet, H. Psychonévrose exotique: l'Amok et le Lattah das Malais.** (Exotic psychoneuroses: The *amok* and the *lattah* of the Malays.) *Prog. méd.*, 1927, No. 7, 205–209.—The *amok* is a passing state—paroxysmal—with the impulse to kill; it comes on in a way impossible to foresee and establishes itself quickly, without known prodromes. This state recalls the epileptic fury, accompanied by anaesthesia. At the end of the attack, if the patient has not been killed by his neighbors, he falls into a state of coma from which he awakens without remembering anything. The *lattah* is also a paroxysmal manifestation and is found, in 98% of the cases, among women—generally of low intelligence—between the ages of 35 and 50 years. The patient suddenly begins to act in an agitated manner and shows an irresistible impulse to reproduce all the acts which she sees executed; to this is added obscene cries and erotic gesticulations. After a crisis of some hours, the patient resumes her activity and remembers perfectly that which she has said or done.—***Math.*** *H. Piéron* (Sorbonne).

2203. **Crouzon, —, & Foulon, —. Un cas d'aphasie semblant due au premier abord à une atteinte du pied de la troisième frontale gauche mais avec lésion profonde dans la zone quadrilatère de Pierre Marie.** (A case of aphasia apparently due at first view to a wound at the base of the third left frontal bone but with a deep lesion in the quadrilateral zone of Pierre Marie.) *Bull. & mém. Soc. méd.*, 1927, **43**, 506–508.—At the autopsy the brain of the patient shows on the outside a lesion of the type of Broca superposable on that of the brain of Leborgne, while on the inside it shows an extensive destruction of the quadrilateral zone.—***Math.*** *H. Piéron* (Sorbonne).

2204. **Fridman, A. [Influence of organic diseases of the central nervous system and endocrine disturbances on the Manoilov reaction in the blood and the serum.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 4–5, 295–306.—A change of the Manoilov reaction (in the form of anomalous reaction) is often observed in diseases of the brain (especially in lues cerebri). Less often it occurs in spinal forms (except in tabes dorsalis, where an anomalous reaction is always present) but never in diseases of the peripheral nerves. In endocrine disturbances anomalous reaction is always present. The Manoilov reaction offers a large opportunity for experiments with various organic and inorganic specimens *in vitro* and *in vivo*.—*A. L. Shnirman* (Leningrad).

2205. **Harman, B. M. (Mrs.). The hospital or sanatorium magazine as an occupational therapy activity.** *Occup. Therap. & Rehab.*, 1927, **6**, 213–216.—The patients are taught type setting, proof reading and make-up. The more mechanical who can exercise sufficiently are put on press work. The magazine proved self-supporting, and the improvement in health of some of the patients was "phenomenal."—*H. E. Burtt* (Ohio State).

2206. **Minkowski, E. La schizophrénie. Psychopathologie des schizoides et des schizophrènes.** (Schizophrenia. Psychopathology of schizoids and schizophrenics.) Paris: Payot, 1927. Pp. 268. 20 frs.—Schizophrenia, one of the most important chapters in modern psychiatry, has sensibly modified the manner of interpreting mental troubles and given a new impulse to psychopathological investigations. The leading ideas which are evolved from this notion bring forward new data concerning human activity in general. Sprung from the investigations by Kraepelin about dementia praecox and influenced on the other hand by the conceptions of Freud, the notion of schizophrenia acquires more and more independence. It finally arrives closer and closer to the study of the phenomena of the normal life. Under the influence of the Bergsonian ideas, the notion of the loss of vital contact with reality becames the central point of the psychopathology of schizophrenics. The peculiarities of schizophrenic thought, the reactions of emotional order coming unexpectedly with schizophrenics in the form of an attitude of revery, of pouting, autism, the rôle of the affective factors in the pathogeny of symptoms, all are to be examined from such a point of view. A classification of different forms of schizophrenia is also derived therefrom. The notion of schizophrenia, in the domain of psychological constitutions, borders upon the fertile notion of schizoidy which has in view the characteristic behavior of the individual to the environment. No bibliography.—*Math. H. Piéron* (Sorbonne).

2207. **Perelman, A., & Frolkov, A. [Significance of the reaction of Buscaino in psychiatry.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 1–2, 24–35.—The black Buscaino reaction which, according to various authors, indicates that the urine contains chemical substances, partly NH and NH_2, can be demonstrated in 50% of all cases of schizophrenia. In healthy individuals the reaction is seldom encountered; but it can be observed more often in cases of postencephalic parkinsonism.—*A. L. Shnirman* (Leningrad).

2208. **Pesker, D. [Dystrophic infantilism and the congenital disease of the central nervous system.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 4–5, 268–277.—Dystrophic infantilism, which is often noted in children, may be caused by internal or by external factors. Endogenous infantilism may be considered as a result of inheritance, exogenous infantilism as a consequence of intrauterine or later injury (e.g., infection or intoxication). The same causes may also give

rise to organoplasies and to various kinds of lesions of the central nervous system. —*A. L. Shnirman* (Leningrad).

2209. **Pesker, D. [The amyostatic syndrome in children.]** *Sbornik, psovyashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume), 1926, 457–460.—From the point of view of the clinic and pathological anatomy, the amyostatic syndrome of Oppenheim manifests itself in children in three different syndrome groups: (1) the lenticular syndrome group—Wilson's disease, parkinsonism, and the states similar to the acute and over-acute disorders of the central nuclei; (2) a group of cortical and subcortical lesions of the pyramidal and extrapyramidal motor tracts—spastic paralysis with forced movements; (3) a group with arrested development traceable to the extrapyramidal motor tracts—athetosis, chorea, double ataxia, etc.—an unusual disorder which appears in a group of infantile diseases of the nervous system, usually innate and hereditary, which results in an arrest of the general development of hereditary origin and is combined with dystrophic infantilism.—*A. L. Shnirman* (Leningrad).

2210. **Rosenthal, G. Le facteur psychique dans la cure du pneumothorax.** (The psychic factor in the treatment of pneumothorax.) *Cour. méd.*, 1927, **77**, 19–21.—The psychological factor is a double-edged weapon: on the one hand it assists in the treatment; but on the other, it may become a disturbing factor because it comes to dominate the situation and to divert the medical approach.—*Math. H. Piéron* (Sorbonne).

2211. **Rubinovich, J. [The oculocardiac reflex in prolonged juvenile epidemic encephalitis.]** *Sbornik, psovyashennyi V. M. Bekhterevu k 40-letnyu professorskoi deyatelnosti* (Bekhterev 40th anniversary commemorative volume), 1926, 467–472.—Among nineteen cases of prolonged juvenile epidemic encephalitis, the author established but one case of normally retarded heart action; in two cases the retardation was very slight, almost lacking; in six cases the author observed accelerated heart action—that is, the inverted reflex; and finally in six cases an exaggerated retardation was found. The explanation of these variations of the oculocardiac reflex should be found, according to the author, in the extension of organic lesions. An irritation or a lesion in the fibers of the vagus along the bulbar tract might determine the various modalities of the disorder of the oculocardiac reflex.—*A. L. Shnirman* (Leningrad).

2212. **Sartwell, R. H. Occupational therapy in an infirmary.** *Occup. Therap. & Rehab.*, 1927, **6**, 191–197.—Occupational therapy proves valuable in an infirmary caring for dependents, mostly aged. Depression is very common and is aided by therapy. The patients as far as possible make things that can be used in the wards or are in some way practical.—*H. E. Burtt* (Ohio State).

2213. **Seletski, W. [A case of tumor of the corpora quadrigemina.]** *Obozrenie psikhiatrii, nevrologii i refleksologii* (Review of psychiatry, neurology and reflexology), 1926, No. 4–5, 242–246.—As a result of a thorough investigation of a case of a tumor of the corpora quadrigemina described by the author, he points out certain symptoms as significant in the diagnosis of tumor of the corpora quadrigemina (muffled sound in percussion, greater blood content in the temporal veins and sclerotic arteries on the side of the tumor). Some cases may run their course without special symptoms except blindness.—*A. L. Shnirman* (Leningrad).

2214. **Smith, W. M. The relationship between the work of the occupational therapist and the academic teacher in a children's hospital or a school for crippled children.** *Occup. Therap. & Rehab.*, 1927, **6**, 187–188.—The therapist must direct the physical activity to avoid developing the wrong muscles. The teacher must thus be tactfully apprised of the necessity of reliquishing her direction of such activities. She may well put her efforts on mental rather than

physical games. She should also recognize the greater susceptibility of her pupils to mental fatigue.—*H. E. Burtt* (Ohio State).

2215. **Vieillet, L. Le délire de la folie d'autrui.** (The delusion of the "insanity of others.") *Encéph.*, 1927, 263–270.—A study of a psychopathic patient, aged 24, suffering from delusions based on the erroneous conviction that a normal person (her husband) was insane. These delusions, expanding into systematized interpretations, the author calls "delusions of vesanic retroversion." This delusion appears only at the outset or at the decline of psychoses; it indicates an already profound disturbance of the psychological relations of the patient with somebody else, and indicates a serious social maladjustment.—*Math. H. Piéron* (Sorbonne).

[See also abstracts 2135, 2137, 2176, 2193.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

2216. **[Anon.] Folklore from St. Helena, South Carolina.** *J. Amer. Folk-Lore*, 1925, **38**, 217–238.—Negro tales, riddles, proverbs, and spirituals written by the pupils of Penn School.—*E. A. Esper* (Washington).

2217. **Bagby, E. The field of social psychology.** *J. Abn. & Soc. Psychol.*, 1926, **20**, 384–390.—The range of current topics considered by writers as within the field of social psychology includes: (1) the psychology of crowds; (2) reactions to persons as stimuli and the social experience factor; (3) reactions to complex situations involving other persons as part of the general stimulus; and (4) reactions and psychological phenomena of whatever type which have some relation to the problem of social welfare. For purposes of instruction it is perhaps best to select several important problems typical of the various unrelated fields. Suggestions are given, as follows: the human composition of society, with special reference to the feeble-minded, insane and criminals; the immigration problem; the psychology of mobs; the psychology of organized groups.—*E. N. Brush* (Boston Psychopathic Hospital).

2218. **Barros e Cunha, J. G. Contribuïções para o estudo de antropologia portuguesa. VI. Descriçao de um crânio Guanche existente no Museu Antropológico de Coimbra.** (Contributions to the study of Portugese anthropology. VI. Description of a Guanche skull in the Anthropological Museum of Coimbra.) Coimbra: Imprensa da Universidade, 1926, Pp. 89–100.—This skull, an excellent example of one of the Canary Island types, is carefully measured, described, drawn and compared with (1) a Guanche skull in the Berlin Museum für Völkerkunde, (2) a Cro-Magnon skull, (3) those of two modern (Portuguese) Cro-Magnonoids. It is concluded that (1) the skull is an excellent specimen of the "disharmonic" type of the Guanche race, (2) it shows wide structural differences from the Cro-Magnon, (3) there are close similarities between it and a modern Portuguese Cro-Magnonoid type, indicating the existence of an influence, common to the ancient Canaries and the Iberian peninsula, tending toward "disharmony" (association of narrow skull and broad face) and platyrhiny. Extensive diagrams and tables are presented.—*R. R. Willoughby* (Clark).

2219. **Bedford, S. E. W. [Ed.] Readings in urban sociology.** New York: Appleton, 1927. Pp. xxxiv + 903. $5.00.—A very comprehensive and careful selection of over 500 very short readings in the field of urban sociology. Principal attention is given to the 68 cities in the United States which had a population of 100,000 or more inhabitants in 1920. The purpose of the book, as stated by the author, is "to provide an introduction and a foundation system of thought for persons interested in every type of city life and improvement, such as stu-

dents and all socialized citizens, including ministers, city officials, physicians, lawyers, teachers, social service workers, city managers, civic secretaries, community center workers, and secretaries of chambers of commerce. The book is designed primarily for teaching purposes. The material is the result of several years of classroom experience with students in the University of Chicago. It is for intermediate, not advanced, classes'' (p. vii). The principal topics treated are location and growth of cities; city planning; streets and alleys, transportation and traffic; civic aesthetics and architecture; public health and safety; housing; the community and neighborhood; and social adjustment. The last two chapters (pp. 599–861) are of psychological interest, and these include the following subjects: indoor recreation; public schools; worship, religion—the church; adjustment of family relations, adjustment of infants and children; and social adjustment of delinquents. At the ends of the chapters are questions for discussion and study, topics for investigation, and valuable classified bibliographies which give a more complete outline of the subject. There is an index of 28 pages.—*H. Cason* (Rochester).

2220. **Boas, F. Stylistic aspects of primitive literature.** *J. Amer. Folk-Lore*, 1925, **38**, 329–339.—In primitive narrative and poetry repetition, particularly rhythmic repetition, is a fundamental trait. Repetitions not required by the technique are proof of the inadequacy of the theories of Bücher and Wundt. In the art forms of a single cultural group there are peculiar features not common to mankind. Thus the distribution of the proverb and riddle shows that these forms are not necessary forms in the development of literary form, and that they are not determined by race but depend upon historical happenings. Differences in cultural life and in general cultural outlook condition differences in content, form, and emphasis in narratives.—*E. A. Esper* (Washington).

2221. **Briffault, R. The mothers.** New York: Macmillan, 1927. 3 vols. Pp. xix + 781; xx + 789; xv + 841. $27.00.—A work of monumental proportions, setting forth in the manner of Frazer and Westermarck, with extensive documentation, the thesis that the germ of the sentiment of mutual consideration upon which human civilizations rest is to be sought in the primitive sentiments centering around woman in her reproductive capacity. An idea of the scale of the work may be obtained from the fact that the bibliography comprises nearly 200 pages, and that nearly 7 pages, set solid, are necessary to cite the sources of the evidence for the simple proposition that in many societies girls are free to dispose of themselves as they wish before marriage. Following is a resumé of the argument: Traditional heredity as well as natural heredity is essential to the development of the distinctive characters of the human mind; due weight must therefore be given it both as a factor in mental evolution and as a hindrance to investigation. Motherhood as a sentiment has developed from its rudiments in the lower animals, and is most pronounced in the *Quadrumana*. The mating instinct, from which love may be said to have developed, is essentially antagonistic to the sexual instinct. Animal groups are matriarchal in constitution, depending on causes associated with the reproductive rhythm of the female; the same phenomenon may be observed on a world-wide scale in primitive human groups, women being also in many cases an economic force in their own right. Marriage, when it has developed, is of many forms, the earlier forms being closest to the matriarchal; jealousy in primitive groups is rare; women have also a prominent part in sexual choice. The development of a higher agriculture marks the turning point in the positions of the sexes, men now having acquired purchasing power. Morality, a characteristically human development, has developed from tabus, largely owing to fear of the unknown; restrictions on sexual intercourse, however, are attributable to the ancient periodicities of the female. The totem, originally the food of the clan, is another source of the

feeling of social solidarity. Witchcraft and other religious observances were originally almost entirely in the hands of the women; the moon, one of the most widespread gods, is also regarded as the particular patron of the women, and is male; it is sometimes represented by a serpent, which is also the symbol of resurrection and of procreation. Moon-worship is also the germ of most primitive conceptions of cosmic as against tribal religion. Queens arose from priestesses, i.e., from female magic-workers; closely associated is the development of concepts of supreme female deities, Mothers of Heaven, etc. From the marriage of the latter were derived various ritual terrestrial marriages, and eventually the present concept of marriage as a religious ceremony. Modesty is at root a matter of safeguarding the sexual organs, as the most important and most susceptible part of the body, against magical harm. Purity in primitive groups is not a desideratum, except as a magical or religious observance on special occasions; from this latter probably arouse the Patristic conception so successful in influencing European mores. Romance originally referred to codes of sex indulgence, and was converted into its opposite only by the strenuous endeavors of the early ascetic theologians and politicians. In conclusion, while present civilizations bear the intellectualistic stamp of the masculine mind, the social sentiments cementing them together derive from the maternal instinct; we now find ourselves in the midst of a new phase of evolution, the indications being that several new forms of sexual association must arise and be recognized. Cooperation and understanding of causes are the *sine qua non* of meliorism; and in the last analysis, the selection of a society's ideals is still a function of its women.—*R. R. Willoughby* (Clark).

2222. **Carter, I. G. Mountain white folk-lore: tales from the southern Blue Ridge.** *J. Amer. Folk-Lore*, 1925, **38**, 340–374.—The first collection of old folk tales from this region. They are tales told to entertain children, and deal chiefly with the adventures of a younger son who is more fortunate or clever than his elder brothers.—*E. A. Esper* (Washington).

2223. **Dexter, R. C. Social adjustment.** New York: Knopf, 1927. Pp. xii + 424. $3.50.—A textbook, more or less in the encyclopedic style, in the adjustment phases of sociology; the author is a former social worker of large experience, now a professor of social science. His professed aim is to reach the educated lay public, who in the last analysis support, or do not support, social adjustment, with such material as will render their reactions more intelligent. Poverty is treated in three chapters—history, causes, and relief methods. Two are given to maladjusted childhood, and one each to feeble-mindedness, old age, disease, physical handicaps, mental disease, drunkenness and drugs, health work, sex adjustments, crime, and migration. The three concluding chapters consider remedial techniques (treated in a general way), viz., case-work, group organization, and the place of science in social adjustment. The author, though apparently aware that his facts do not indicate the proximity of any profound ameliorations, is duly mindful of the convention that it is bad form to draw pessimistic conclusions; particularly, he looks toward psychology with a degree of hope which, possibly, the psychologists might not share. Each chapter is furnished with an extensive but undated list of references, and in an appendix are presented lists of periodicals, reports, organizations, etc.—*R. R. Willoughby* (Clark).

2224. **Farnsworth, P. R. Concerning art standards.** *Psychol. Rev.*, 1926, **33**, 324–328.—Disagreement among estheticians upon art standards or particular merits are due to a confusion as to art criteria. If esthetic judgments are largely the result of conditioning there will be no uniformity among individuals except in so far as they have been similarly conditioned in any particular line.—*H. Helson* (Kansas).

2225. **Fauset, A. H. Folklore from the half-breeds in Nova Scotia.** *J. Amer. Folk-Lore*, 1925, **38**, 300–315.—Stories of hunting, of devils and ghosts, and of magical heroes.—*E. A. Esper* (Washington).

2226. **Finlay, H. H. Folklore from Eleuthera, Bahamas.** *J. Amer. Folk-Lore*, 1925, **38**, 293–299.—Two animal tales, and a number of proverbs, riddles, and toasts.—*E. A. Esper* (Washington).

2227. **Flom, G. T. Noa words in North Sea regions; a chapter in folklore and linguistics.** *J. Amer. Folk-Lore*, 1925, **38**, 400–418.—Illustrative material from the fishermen's language of the Shetland Isles, showing the nature of forbidden words and of the words substituted for them (noa-words).—*E. A. Esper* (Washington).

2228. **Giardini, G. I. Crime, causes, and criminals.** *Ped. Sem.*, 1927, **34**, 144–168.—A brief description is given of the work of the Department of Psychology of the Western State Penitentiary (Pennsylvania). Inmates are given the Stanford-Binet test, educational tests, and a psychiatric questionnaire followed when necessary by a psychiatric examination; and a full social history is obtained. The department has also extended its activities outside the prison to obtain data supplementary to that obtainable by the personal examinations and from the official records. Ten case histories are furnished to show the high value of this supplementary information. Emphasis throughout the article is upon the complexity of causes at work in the production of a crime.—*J. F. Dashiell* (North Carolina).

2229. **Groves, E. R. The drifting home.** Boston: Houghton Mifflin, 1926. Pp. 217.—A consideration primarily of the "bewildered," as distinct from both the "good" and the "bad" home. After an introductory statement of the position of the modern family and the social influences that have affected and are affecting it, the author suggests that, although other agencies are taking over more and more of the technical processes of life from the home, the latter has left to it a uniquely valuable and characteristic function—the stimulation of its members, particularly the children. The home is interpreted as an evolution of the satisfactions of primary human needs. It is pointed out that economic trends are making it more and more difficult for the middle class to reproduce its numbers. In a remarkably lucid and sympathetic chapter the standpoint of "revolting" youth is presented, supposedly in its own words. A few types of "bad" families are considered in detail, followed by a chapter on parents whose emotional development has remained at the infantile level. A final chapter suggests that we may look for an increasing attachment of all classes to a pleasure philosophy of life, a continued decrease in the middle-class birth rate, and an increase of the "companionate" (deliberately childless marriage) as a recognized institution.—*R. R. Willoughby* (Clark).

2230. **Harding, T. S. Adele, and the swami, and I.** *Nation*, 1927, **124**, 693–694.—The reason Swami types are able to attract and hold audiences—and to compete with the movies—appears to be that they offer to a certain sort of yearning individual what he believes he wants. Those who feel the lack of mysticism, awe, ritual, and supernatural elements and do not fill the gap by a devotion to literature or art or to a religion that permits expression of these things—these people worship at the feet of the Swami.—*M. Goodrie* (Clark).

2231. **Henderson, K. Prehistoric man.** New York: Dutton, 1927. Pp. xv + 276. $3.00.—An account of the principal anthropological findings in the field of pre-history, presented in an easy style and somewhat dramatized. The evidence is not given in the text; for it the reader is referred to a four-page bibliography at the end of the volume. Illustrations are plentiful. A few chapter headings give the tone: a little geology; lemur-sprites in the forest; apes getting above themselves at Taungs; gorilla faces in Rhodesia; pony-

hunters at Solutré; Neolithic men entering the ghost world; tribes that talk Aryan; Iron Age men in residence; Vikings burning.—*R. R. Willoughby* (Clark).

2232. **Hrdlička, A. Anthropology of the American negro. Historical notes.** *Amer. J. Phys. Anthrop.*, 1927, **10**, No. 2.—The paper, prepared at the request of the newly established "Committee on the Negro," of the National Research Council, shows what has thus far been accomplished in the lines of physical anthropology and related fields on the American negro, and gives a bibliography. While there are many communications of more or less interest and value in these connections, it is nevertheless shown that nearly all thus far done is of a preliminary nature.—*A. Hrdlička* (U. S. National Museum). (Courtesy Wistar Bibliographic Service.)

2233. **Josey, C. C. The psychology of religion.** New York: Macmillan, 1927. Pp. xi + 362. $2.50.—Primarily a textbook, but intended also for the general reader. In an introductory division of three chapters, methods and place of the study of religions, psychological factors involved, and a definition of religion are considered. The second part, on the development of religion in society, is concerned chiefly with the growth and causes of belief in God and in immortality. In the third and last part, on religious development in the individual, there are treated, in addition to this topic itself, conversion, cult practices, preaching, asceticism, prayer, and mysticism. A concluding chapter considers the purpose, truth and future of religion. The standpoint is conservative, the author tending somewhat to establish his points of departure by simple assertion. The style is elementary, and the treatment of psychological factors, for example, descriptive rather than interpretational or intensive. Some attention is given to the non-Christian religions, and a good deal to factors concerned in getting "practical" results, e.g., in preaching and in religious education.—*R. R. Willoughby* (Clark).

2234. **Kuhlmann, F. Biennial report for period ending June 30, 1926.** Division of Research of the State Board of Control, Minnesota. Pp. 10.—5728 individual and 9981 group tests (exact tests not specified) were given during the biennium for 52 agencies, mostly institutional. Virtually complete public school surveys in 23 towns make possible comparisons of the intelligence levels in the penal and corrective institutions with those of the general population. The results show a marked inferiority to the general population in the case of prisoners, and the tendency is the same throughout. The following are the figures for the State Prison (969 cases in all) in terms of the percentage of the numbers expected in an I.Q. class (on the basis of the school surveys) constituted by the numbers actually found; e.g., 832%, or over eight times as many prisoners as members of the general population had I.Q.'s below 75:

I.Q.	0–74	75–84	85–94	95–104	105–114	115–124	124–
%	832	154	61	40	28	25	20

—*R. R. Willoughby* (Clark).

2235. **Larsen, N. P., & Godfrey, L. S. Sacral pigment spots. A record of seven hundred cases with a genetic theory to explain its occurrence.** *Amer. J. Phys. Anthrop.*, 1927, **10**, No. 2.—Records of 693 children as to presence or absence of the mark are tabulated. This is of especial interest in the inclusion of 296 cases of interracial crossings. Consequently, it is considered to be of no value in the study of Mendelian inheritance in man. A theory to explain the mark genetically is presented. A brief review of the literature on the "oriental mark" is given.—*A. Hrdlička* (U. S. National Museum). (Courtesy Wistar Bibliographic Service.)

2236. **Liddell, M. H. The physical characteristics of speech sound. III. The energy-frequency ratios of diphthongs.** Lafayette, Ind.: Purdue Univ.

Bull. No. 28, Engineering Experiment Station. Pp. 66.—The present paper is a continuation of the author's previous work (Bulls. No. 16 and No. 23) with the fixed-pitch theory of vowel quality (Helmholtz) in which he found that the quality of the spoken vowel shows an unequal energy distribution similar to that which D. C. Miller had demonstrated for the corresponding sung or intoned vowel. Instead, however, of a single strong component, or at the most two, absorbing the maximum energy, a group of maximum energy components appeared in the spoken vowel in the neighborhood of the single resonant frequency or twin resonant frequencies which Miller found as characteristic of the corresponding sung vowel. To develop a constant relation determining the effective frequency value of the maximum energy components, since the quantitative distribution of energy can be measured in terms of frequency, the author used as a standard of measurement the hypothetical condition that an equal distribution of energy among the partials would produce no quality. This condition is expressed by $(nA)^2 = K$ which can be visualized as an equilateral hyperbola; n is the frequency magnitude (abscissa) and A is the amplitude magnitude (ordinate). By analyzing a typical curve harmonically, either by a Henrici Analyzer, which gave forty components, or by the author's graphical method, and plotting to the same scale the amplitudes of a compound wave, whose energy is unequally distributed among its components, against the standard hyperbola, the frequencies being the same for both cases, a constant relation was determined which is expressed by

$$Q \propto \frac{n}{10}\sqrt{\sum_{i=1}^{k} P_i(a_i^2)} \text{ where } \frac{P_i}{100} \text{ represents percentage, i. e. } \sqrt{\sum_{i=1}^{k} P_i} = 100$$

Q designates the quality of the given sound and k the number of maximum energy components in its stimulus; let $i = 1, 2, 3, \cdots k$, and a represent the product of the ith one of these maximum energy components and its corresponding order number in the natural order of the components. The maximum energy of a component is measured by an "energy-frequency ratio" $(n^2 \cdot a^2 A^2)$ in terms of coefficients of n^2, n being considered as a constant frequency for the given system. These fundamental principles are used as the basis for the present investigation—"The energy-frequency ratios of diphthongs." Although the investigation is chiefly physical, it has important psychological and philological aspects: "It has been the writer's main purpose in these investigations to discover evidence that this function of the human reason (interest in language) is, in its analysis, a scientific phenomenon, solely depending upon the link that connects these physical facts with human feeling states, which only have vital significance when they go hand in hand with reason and intelligence." Several oscillograms that are typical of those analyzed are given (natural size) as well as complete tables of the mathematical results found for forty components of eleven different waves. The psychological bearing seems to be that our conceptions of pitch rest almost wholly on our antecedent conceptions of musical harmony. And since ordinary speech is not musical and refuses the category of "harmony," our theory of pitch is not of much value to our understanding of language. The author suggests that the three aspects of tone phenomena (loudness, quality, pitch) depend upon the relative intensities of sensational stimuli, which is quite in line with the modern psychology of other sensational processes The phonetic conclusions give a definiteness, through the use of "energy-frequency ratios" as an index of vowel tone qualities, to the hitherto vague and *a priori* systems of vowel classifications of traditional phonetics. The results of the diphthong tests indicate that a diphthong is a continuous speech tone like that produced by a simple vowel. Referred to the author's vowel-tone spectrum, it is concluded that "A diphthong is a speech tone whose Quality Constant shifts

from one part of the spectrum to another through one or more intervening bands.'' A vowel-tone spectrum is appended.—*R. B. Dow* (Clark).

2237. **Michelson, T. Micmac tales.** *J. Amer. Folk-Lore,* 1925, **38,** 33–54.—Tales of intermarriage with animals and giants, and of heroes with magical powers.—*E. A. Esper* (Washington).

2238. **Parsons, E. C. Micmac folklore.** *J. Amer. Folk-Lore,* 1925, **38,** 55–133.—Tales of Indian, French, and Negro origin recorded in Nova Scotia and Cape Breton. The Indian stories deal with encounters with supernatural beings, anthropomorphic animals, adventures of the hero-transformer, etc. The other stories include a number of familiar European folk-tales. Bibliography of seven titles.—*E. A. Esper* (Washington).

2239. **Parsons, E. C. Bermuda folklore.** *J. Amer. Folk-Lore,* 1925, **38,** 239–266.—Conditions in these islands have apparently not been favorable to the preservation of folklore, which perhaps was never so abundant as in the Bahamas or in the plantations of the South. The present collection includes a few tales, proverbs, and rhymes, and a large number of riddles.—*E. A. Esper* (Washington).

2240. **Parsons, E. C. Barbados folklore.** *J. Amer. Folk-Lore,* 1925, **38,** 267–292.—Chiefly animal tales and riddles.—*E. A. Esper* (Washington).

2241. **Parsons, E. C. The pueblo of Jemez.** New Haven: Yale Univ. Press, 1925. Pp. xiv + 144. $7.50.—A descriptive account of the Pueblo of Jemez, together with implied and expressed comparisons in culture characteristics with other tribes and other pueblos. The Jemez pueblo is particularly interesting for study as it contains the descendants of the only survivors of the ruined pueblo of the Pecos, and therefore furnishes rare material for the study of immigration effects on culture and psychological makeups. Mention is also made of contributions to Jemez culture from individual contact with other foreign pueblos. The survey presents data on the history of the town, its economics, its ceremonial, secular, and personal life, and the clan and kinship terms used. A short section is given to an account of the Pecos immigration. There are included with the book 8 genealogical tables in which are given a genealogical record of the 20 Pecos immigrants and their descendants. There is a bibliography of 3 pages.—*M. Goodrie* (Clark).

2242. **Reuter, E. B. The American race problem.** New York: Crowell, 1927. Pp. xii + 448. $2.75.—In the twenty or more chapters of this book the author reviews the various phases of the negro problem in America. He points out that the growing prejudice of race and caste feeling among the negroes and whites retards the cultural advance of the negroes and to that extent the whole nation. In the introductory chapter the author reviews the whole situation, stating that the negro people today offer the best opportuniy in the modern world to study a race evolution. Next he studies race as a sociological concept, racial differences, the contact of races and cultures, the primitive negro when he first reached America, the disappearance of his original language and customs, and the effect of slavery upon his status. ''The negro since freedom'' is given almost half of the book, under such topics as ''The economic status of the negro,'' ''Education of the negro,'' ''Deliquency and crime,'' ''The growth of race conconsciousness,'' etc. The purpose of the book is expositional and analytical rather than to seek solutions for prevailing problems.—*P. H. Ewert* (Clark).

2243. **Roberts, H. H. A study of folk song variants based on field work in Jamaica.** *J. Amer. Folk-Lore,* 1925, **38,** 149–216.—With regard to variations in a single tune sung by the same singer, it was found that minor shifts in rhythm, melody, words, phrases, and relative order occurred. These were individual ''interpretations'' which were ''welcomed with delight.'' ''It is quite evident that these minor variations are the starting points of all the larger ones

and lead to considerable local changes." In versions given by different individuals from different localities, the most constant feature was tempo. Rhythmic patterns, the outlines of melodies, and dramatic incidents are also relatively constant. Words vary with local humorous applications, mishearing, and poor memory.—*E. A. Esper* (Washington).

2244. **Sergeant, E. S. Earth horizon.** *Nation*, 1927, **124**, 714–716.—The author tells of a "living American civilization as archaic as that of Egypt and much more primordial than that of Greece and Rome," and touches upon the physical environment, beliefs, and customs of the Pueblo Indians.—*M. Goodrie* (Clark).

2245. **Speck, F. G. Montagnais and Naskapi tales from the Labrador peninsula.** *J. Amer. Folk-Lore*, 1925, **38**, 1–32.—This folk-lore resembles most closely that of the Algonquin, Cree, and Ojibwa, while differing markedly from that of tribes south of the St. Lawrence. The tales are concerned chiefly with the hero-transformer, cannibal giants, magicians, and various animal-human relationships.—*E. A. Esper* (Washington).

2246. **Tamagnini, E. Contribuções para o estudo da antropologia portuguesa. V. Os antigos habitantes das Canárias nas suas relações com a antropologia portuguesa.** (Contributions to the study of Portuguese anthropology. V. The ancient inhabitants of the Canaries in their relationships to Portuguese anthropology.) Coimbra: Imprensa de Universidade, 1926. Pp. 73–85.—After a brief preliminary remark on the relations of his work to taxonomy, phylogeny and the Mendelian principles, the author proceeds to his main purpose of comparing statistically measurements of 330 skulls of aboriginal Canary Islanders with those from a somewhat greater number of modern Portuguese. He finds that (1) the primitive population of the Canaries was heterogeneous, resulting from the superposition of various ethnic types; (2) it is possible to recognize the existence of an element of "disharmony" (association of narrow skull with broad face) of Cro-Magnonoid affinities, in proportions much higher than those found in present-day Mediterranean populations; (3) beside this Cro-Magnonoid element there exists another disharmonic element, platyrhiny, recognizable in a relative difference in the nasal index; (4) considering the wide local differences in the characters studied, the present state of our knowledge does not justify the assumption of a genotypic affinity between the present-day Portuguese and the ancient inhabitants of the Canaries.—*R. R. Willoughby* (Clark).

2247. **Yoffie, L. R. Popular beliefs and customs among the Yiddish-speaking Jews of St. Louis, Mo.** *J. Amer. Folk-Lore*, 1925, **38**, 375–399.—Many of these customs and traditions are survivals of ancient Jewish practices; others are probably customs that the Jews copied from other peoples during their wanderings. Many examples, classified under a number of heads, are given, together with parallels from European and Oriental sources.—*E. A. Esper* (Washington).

[See also abstracts 2186, 2195, 2262, 2264, 2265, 2271, 2277, 2288, 2295, 2307, 2310.]

INDUSTRIAL AND PERSONNEL PROBLEMS

2248. **[Anon.] Suggested tests for steam fireman.** *Pub. Person. Stud.*, 1927, **5**, 98–104.—A statement of the duties, qualifications and compensation of steam firemen is followed by a description of unstandardized tests in short-answer form covering information as to boiler room work, equipment and tools, understanding of printed matter relating to the occupation, a test of memory for

oral directions and a recommendation that the Stenquist Mechanical Aptitude Test 1 be included in the battery. A brief performance test and items of education, experience and physical condition are outlined. Possible valid weightings for the members of the battery and tentative ratings are listed.—*K. M. Cowdery* (Stanford).

2249. **[Anon.] The organization, activities and procedure of the New Jersey State Civil Service Commission.** *Pub. Person. Stud.*, 1927, **5**, 111–124.—The general high level of public employment matters as administered by the New Jersey State Civil Service Commission is attributed to a strong law, fairly liberal financial support, delegation of technical decisions to expert staff, sound principles of administration, continually revised classification and compensation plans, and the centering of authority in the Chief Examiner. Certain weak spots as well as the better values are described.—*K. M. Cowdery* (Stanford).

2250. **[Anon.] Suggested tests for cooks.** *Pub. Person. Stud.*, 1927, 5, 125–128.—For the selection of cooks suitable for the duties, qualifications and compensation outlined a series of unstandardized tests is offered. Short answer material dealing with the work, utensils and food, a test of understanding of printed matter related to kitchen work, and questions as to given recipes are included. Information as to education, experience and physical condition is mentioned but weighted lightly in the battery. A performance test and personal interview are recommended.—*K. M. Cowdery* (Stanford).

2251. **[Anon.] Investigations by the Institute into unproductive time.** *J. Nat. Instit. Indus. Psychol.*, 1927, **3**, 242–244.—In a number of investigations by the Institute it was found that, on the average, 28% of the working time was spent in operations only incidental to production. Various methods were employed in reducing the "lost" time. No question of "speeding up" was involved. On the contrary, alterations of the kind described, while increasing output, beneficially affected both the mind and body of the worker.—*A. R. Knight* (National Institute of Industrial Psychology).

2252. **Bartlett, R. J. The judgment of the value of advertisements and the construction of rating scales.** *J. Nat. Instit. Indus. Psychol.*, 1927, **3**, 252–264.—There are many methods of constructing "rating scales" by arranging advertisements in order of merit—merit in an advertisement consisting of power to attract and hold attention. The value of other advertisements may then be measured by the scale. It was found that by employing the "method of fractionation" different subjects could, with reasonable consistency, sort advertisements into seven groups. The advertisements are first sorted into three groups—good, medium and poor—and each group is then sorted into three subgroups. Bottom "good" is then combined with top "medium" and bottom "medium" with top "poor." A scale was obtained by first sorting a number of *Daily Mail* advertisements in this way, using the scale thus formed to grade other advertisements, and then combining the two scales. The combined scale was used for evaluating advertisements used in a large and popular Hospital Ballot, and highly confirmatory results were obtained.—*A. R. Knight* (National Institute of Industrial Psychology).

2253. **Follett, M. P. The basis of control in business management.** *J. Nat. Instit. Indus. Psychol.*, 1927, **3**, 233–241.—Management is chiefly responsible for business success; it can be learned, and should rest on scientific knowledge applied to the human as well as to the mechanical side of industry. The psychologist can give great help in such matters as the giving of orders and the handling of conferences. All executives should receive some training in psychology inside the plant; psychology should be taught in business schools; the field of industrial psychology should be extended to include all human problems in business; and, in general, there should be closer cooperation between business ex-

ecutives on the one hand and psychological institutes and university departments on the other.—*A. R. Knight* (National Institute of Industrial Psychology).

2254. **Freyd, M. What is applied psychology?** *Psychol. Rev.*, 1926, **33**, 308–314.—The distinctions often drawn between applied and general psychology are seen to break down under analysis. Since everything ordinarily included by psychologists in the term applied psychology is shown to belong under general (experimental) psychology, applied psychology has no real scientific connotation (apart from the careful work of psychologists in the applied field, so-called, which is truly scientific) and hence may be turned over to pseudo-scientists with little regret.—*H. Helson* (Kansas).

2255. **Gies, W. J. Dental education in the United States and Canada.** Bull. No. 19, Carnegie Foundation for the Advancement of Teaching, 1926.—*R. R. Willoughby* (Clark).

2256. **Kitson, H. D. A preliminary personnel study of psychologists.** *Psychol. Rev.*, 1926, **33**, 315–323.—Statistics are presented concerning the turnover among psychologists. Various interesting questions are pointed out which may be answered by this type of personnel research.—*H. Helson* (Kansas).

2257. **Limp, C. E. A work in commercial prognosis.** *J. Educ. Res.*, 1927, **16**, 48–56.—A correlation of the individual tests making up the following scales (Terman Group Test of Mental Ability; Hoke Prognostic Test of Stenographic Ability; Downey Group Will-Temperament Test; Woodworth and Wells Easy Direction Test, and Courtis Arithmetic Test) with shorthand and typewriting criteria. On the whole the correlations are low but positive. The authors conclude that, although these tests are not entirely satisfactory, yet they "have a very great value in forecasting the aptitudes of commercial students."—*S. W. Fernberger* (Pennsylvania).

2258. **Poffenberger, A. T. Applied psychology. Its principles and methods.** New York: Appleton, 1927. Pp. xx + 586. $4.00.—Condensing portions of the preface: "This book is the successor of *Applied Psychology*, published in 1917 under the joint authorship of H. L. Hollingworth and the present writer. As Professor Hollingworth's interests have shifted to other fields of research he has preferred to withdraw from active participation in the revision." "The book is designed to meet the needs both of the serious student and of the more casual reader. The former will find in footnotes an abundance of references leading him into original sources and extended surveys. The latter may neglect these." "Part I deals with the relationship of the facts of modern dynamic psychology to the personality and competence of the individual. Practical application is made of the facts of original nature, the inheritance of mental traits and capacities, individual differences, the conditions and methods of effective work, learning, and thinking; of the psychological influences of such biological factors as age, growth, sex, and race; of such physiological phenomena as fatigue, rest, sleep, and the influence of drugs; and of such environmental factors as illumination, ventilation, weather, time of day, distractions, and solitude. Part II presents the applications of psychology to those various major types and fields of occupational activity in which the greatest service can be rendered. These include: vocational selection and guidance, entailing a discussion of the function of tests of intelligence and special capacities, tests of character and temperament, and the methods of making judgments of fitness more reliable; business, in which all the devices for the distribution of goods must be adapted to the characteristics of consumer psychology; industry, where production depends primarily upon the psychological factors of speed, economy of effort, satisfaction and good will of the worker; the law, where the concept of human maladjustment as the basis of criminal behavior is rapidly gaining acceptance; medicine, in which the concept of distorted human motives has come to play such

an important part; and education, whose modern developments rest upon a foundation of psychological principles.''—*D. C. Rogers* (Smith).

2259. **Telford, F. Significant personnel activities in California.** *Pub. Person. Stud.*, 1927, **5**, 90–97.—Two weeks of observing public personnel agencies at work in California resulted in the impression that from the point of view of general high grade personnel administration through a central agency this state seems in most respects to be the brightest spot in the United States. The general level is high without outstanding bad spots. Intelligent interest, pride in work and desire to find better methods, coupled with technical competence and a regard for merit principles, characterize the activities which promise goodly advances on the Pacific Coast in the next five years. Features of the service in various local centers are described.—*K. M. Cowdery* (Stanford).

2260. **Telford, F. Needed personnel legislation, federal and local.** *Pub. Person. Stud.*, 1927, **5**, 106–110.—Central personnel agency administration of the merit system has achieved success in various large centers but seldom demonstrated value in the smaller independent units. Success has depended upon adequate funds and intelligent use of good organization. Federal work has suffered from divided responsibility, inadequate staff, and disregard of laws. Action is urged toward a single strong federal agency and toward state and local centers where population and funds are available, with provision of service for smaller communities from the larger organizations.—*K. M. Cowdery* (Stanford).

CHILDHOOD AND ADOLESCENCE

2261. **[Anon.] The unpardonable sin.** *Nation*, 1927, **124**, 579–580.—(15th article in ''These modern women'' series.) The story of a woman out of tune with her childhood surroundings of Presbyterian orthodoxy and conventionality. As a child she was beset with fears imposed by an orthodox morality that failed to reckon with inner drives—fear of lying, of disobedience, of sex, of what would happen to her because she couldn't believe in the existence of God. The unpardonable sin, she learned, was blasphemy against the Holy Ghost; and it was the fear of committing this that led to many repressions and distortions. No one in her circle guessed that she was maladjusted and unhappy. The effects of this background in shaping her later life are traced.—*M. Goodrie* (Clark).

2262. **Appleton, V. B. Growth of Chinese children in Hawaii and in China.** *Amer. J. Phys. Anthrop.*, 1927, **10**, No. 2.—The growth process of Chinese boys in Hawaii is not the same from six to twenty years of age as for Chinese boys in Chekiang and Kiangsu Provinces in East China. Absolute measurements increase with age in a more smooth, regular, and intensive manner for Chinese boys in Hawaii. Relative measurements show more definite characteristics of growth. The critical periods of retardation characteristic of the growth of boys in East China are not found in the Hawaii group. The growth process of Chinese boys in Hawaii represents inborn racial growth impulse influenced less by unfavorable incidental factors of environment than that of Chinese boys in Chekiang and Kiangsu Provinces in China.—*V. B. Appleton* (Honolulu). (Courtesy Wistar Bibliographic Service.)

2263. **Borovikov, I. V. [An investigation of the motor endowment of children with a speech disturbance (logopaths) and of deaf mutes (acupaths).]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 175–179.—An investigation of the motor endowment of logopaths and acupaths with the Oseretzky Scale shows that in them this capacity is less developed than in normal children of the same age, and that this discrepancy becomes more pronounced with increasing years.—*I. V. Borovikov* (Leningrad).

2264. **Bruner, E. B. A laboratory study in democracy.** Garden City: Doubleday Page, 1927. Pp. 262.—The director of the George Junior Republic of Western Pennsylvania sums up some of his most frequent types in forty short chapters, to which is appended a forty-first by one of the ex-citizens. The results of fifteen years' observations are embodied. The standpoint is frankly orthodox; the pyromaniac, psychopathic liar, agitator, extreme egotists, and all similar types of compensatory-mechanism victims are classed as "defective delinquents" for whom nothing can be done; although a psychiatrist is in occasional attendance, his diagnoses are of the sort "Feeble inhibition with criminal tendencies." The traditional moral values of church, citizenship, etc., are prominent in the local government. The spirit of love and mutual cooperation, together with a strong *esprit de corps*, are evidently very effective in those cases in which all that is necessary to dissolve a fixation is the absence of its cause—e.g., ill-treated step-children; and many useful citizens have been returned to the community through the Republic.—*R. R. Willoughby* (Clark).

2265. **Bureau of Social Protection, City of Tokyo. Delinquent boys and their physical symptoms.** *Seisai* (Betterment of Life), **2**, No. 2, 1925.—271 delinquent boys out of 368 who were confined in the city reformatory in 1923 were given thorough anthropometrical and psychological measurements. Malnutrition cases were fewer than the expectation. As to the shape of skull mesocephaly was predominant, brachycephaly coming next. No correlation was found between brachycephaly and feeble-mindedness, but speaking generally the delinquent boys tended to show some cephalic abnormality regardless of their intelligence. Complexion was as a rule unhealthy. No abnormality was found in visual and auditory acuity, dentition, language habit, and enuresis. 139 were found to be mentally normal; among the abnormal there were 11 imbeciles, 42 morons, 75 psychopaths, and 4 neurotics.—*J. G. Yoshioka* (California).

2266. **Dernova-Yarmolenko, A. A. [Passive and active movements in association reflexes in children of school age.]** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 235–247.—The purpose of the experiment was to investigate the speed of formation and dissolution of association reflexes in children in relation to sound, light and pressure, and in passive and active movement. Results: Passive movements combined with the auxiliary stimuli do not lead to the formation of association reflexes so long as the subject really remains passive; active movements under the same conditions readily result in the reflexes. Association reflexes also disappear quickly, indicating the presence of internal inhibitions.—*A. L. Shnirman* (Leningrad).

2267. **Goodenough, F. L. The relation of the intelligence of pre-school children to the education of their parents.** *School & Soc.*, 1927, **26**, 54–56.—For 213 pre-school children who were of American parentage and under very close parental supervision, two series of I.Q.'s (Kuhlmann-Binet Test) were obtained, the retests taking place 6 weeks after the first test. The I.Q.'s were correlated with the number of years of schooling claimed by each parent and with the same figure for the mid-parent. The correlation between the I.Q.'s on the first and second tests, respectively, and the education of the mother are $.319 \pm .042$ and $.353 \pm .049$; the corresponding correlations with the education of the father are $.264 \pm .043$ and $.349 \pm .040$. The relationship between test performance and mother's education does not seem, however, to be consistently more marked for the various age and sex groups than does the analogous relationship between test performance and father's education. Since a mother tends to spend considerably more time with a pre-school child than does the father, the results indicate that her personal influence during these additional hours has little effect upon the reaction to the Kuhlmann test. The author quotes from

another of her studies in which it was discovered that the correlation between the I.Q. of children and the occupation grade of their parents was as great for a pre-school as for a young adolescent group. These facts suggest that performance on the Kuhlmann-Binet Test is more closely dependent upon native endowment than upon epigenetic factors operative after infancy at least.—*H. L. Koch* (Texas).

2268. **Goodenough, F. L., & Leahy, A. M. The effect of certain family relationships upon the development of personality.** *Ped. Sem.*, 1927, **34**, 45–71.—The study of kindergarten children at the Minneapolis Child Guidance Clinic afforded opportunity to consider the bearings upon behavior traits of order of birth in the family. 293 children were rated by their teachers on fourteen traits. On the basis of their records they were grouped into the classes: oldest, middle, youngest, and only children of their respective families. In general: The oldest children showed significant tendencies toward lack of aggressiveness and self-confidence, lack of leadership qualities, much suggestibility, and some seclusiveness and introversion. The middle children showed these traits in lesser degree. The youngest children showed no outstanding characteristics but much individual variation. The only children showed higher ratings for aggressiveness and self-confidence, for gregarious interests, and for instability of mood and flightiness of attention.—*J. F. Dashiell* (North Carolina).

2269. **Gruenberg, B. C. [Ed.] Guidance of childhood and youth; readings in child study.** New York: Macmillan, 1927. Pp. xii + 324.—This compilation represents the cream of a somewhat intensive selection of materials for child study groups. There are four divisions: impulses and activities (10 sections), the social environment (6 sections), organic foundations (7 sections), and individual variations (3 sections). From two to eight selections are comprised in each section, and the selections average perhaps two pages in length. The quality of the work selected is rather discussional and speculative than factual, and appears to aim at ease of understanding rather than psychological insight where the two conflict. The average of ten dates, chosen at random, is 1910; the more recent contributions of the "progressive education" movement and of analytical psychology are, therefore, not conspicuously represented, and the tone is frequently authoritative rather than experimental.—*R. R. Willoughby* (Clark).

2270. **Huff, R. L. Percept content of school children's minds.** *Ped. Sem.*, 1927, **34**, 129–143.—Enormous individual differences were found in children's ability to respond to a vocabulary type of test that referred to sensible objects and qualities. These differences were attributable only in part to each of the factors: intelligence, age, and grade. The children studied lived in a congested district that was inferior esthetically, hygienically, morally, etc.; and the character of their limitations on the word tests suggests the importance of providing means whereby children may get acquainted with the subject matter of instruction not formally but by sensory contacts.—*J. F. Dashiell* (North Carolina).

2271. **Jones, D. C., & Carr-Saunders, A. M. The relation between intelligence and social status among orphan children.** *Brit. J. Psychol. (Gen. Sect.)*, 1927, **17**, 343–364.—Children attending eight schools of different social status were tested. The results appear to show that there is a differentiation of intelligence according to class; that the I.Q. of children of the lower classes increases with residence in the orphanages; and that the reverse sometimes occurs with children of higher social status.—*H. Banister* (Cambridge).

2272. **Lehman, H. C. A study of doll play in relation to the onset of pubescence.** *Ped. Sem.*, 1927, **34**, 72–76.—In a comparison of his graph showing the percentages of girls of different ages who in a questionnaire stated that they played with dolls, with a graph showing percentages of girls of corresponding ages found by Baldwin to be prepubescent, the author points out a close parallelism.—*J. F.Dashiell* (North Carolina).

2273. **Murayama, G. Study on the causes of death in elementary and middle school children.** *Nippon Gakko Eisei* (Japanese School Hygiene), **13**, No. 6, 1925.—According to an official report of Tochigi Prefecture, Japan, 475 children out of 174,919 who registered in the elementary schools in the Prefecture in 1923, died of various diseases, a death ratio of 2.72 per 1,000. The total registrants in the middle schools during the same period were 12,572, of which 61 died, a death ratio of 4.89. The 12,572 middle school children were composed of 8,105 boys and 4,467 girls, and of the 61 who died 38 were boys and 23 were girls, giving a death ratio of 4.79 for boys, and of 5.15 for girls. In the elementary schools the highest number of deaths was due to gastro-enteric disorders; the next highest was due to general debility; the third highest was due to diseases of the nervous system. 40 cases out of 66 which belong to the third class died of meningitis. In the middle schools tuberculosis claimed the highest number of deaths, typhoid fever coming next. It was also found that death ratios tended to rise with an increase in age.—*J. G. Yoshioka* (California).

2274. **Nikitina, E. S. [The will function in difficult and in normal children.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 2–3, 180–197.—Every psychopathic group has its characteristic will profile; that of constitutio hysteria (the degenerative form) exhibits a definite infantilism, i.e., a retardation of development apparently due to an arrest in the fifth or sixth year. Other groups show an extensive disharmony in the development of the will function, which sometimes progresses up to the age of fourteen, sometimes regresses to that of five, sometimes falls within the limits of the normal, sometimes is clearly retarded; each variety, nevertheless, has its own profile. Psychopathia degenerativa abulia torpida, on the other hand, shows alongside the same developmental disharmony in the sphere of the will a clear picture of the so-called paralysis of will, i.e., a marked lowering of impulse activity. Children who show a certain degree of retardation or disharmony in the will function, together with a profile characteristic of some form of mental abnormality, should be treated individually, since they require the application of special educational methods, such as instruction (psychological orthopedics in the will function) of the sort given in institutions for the mentally retarded.—*A. L. Shnirman* (Leningrad).

2275. **Osipova, V. N. The speed of formation of association reflexes in children of school age.** *Novoe v refleksologii i fiziologii nervnoi sistemy* (Reflexological and neurophysiological news), 1926, **2**, 218–234.—The object of the investigation was to determine the speed of formation of association reflexes in normal and defective children. 308 subjects were used: 72 boys and 76 girls of normal mentality, 60 feeble-minded boys, 50 blind children and 50 deaf mutes. The time necessary for the training of the association reflexes was considered with especial reference to age and sex. Conclusions: (1) Association reflexes are formed more quickly in children than in adults. (2) In all ages and both sexes children were found who formed the reflexes quickly and others who formed them slowly. (3) Younger children form the associations more quickly than do older ones. (4) Mentally retarded children show a more rapid formation of the reflexes. (5) Blind and deaf-mute children apparently form these associations slowly. (6) All children are capable of division into associative-stimulative and associative-inhibitive types, according to the speed with which they form association reflexes.—*A. L. Shnirman* (Leningrad).

2276. **Osipova, V. N. [Associative-stimulative and associative-inhibitive child types.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1926, No. 1, 16–20.—The process of formation of association reflexes in children shows especially markedly two fundamental brain processes, stimulation and inhibition. According to which of these

processes dominates in the functioning of the central nervous system, children may be divided into two principal groups, the associative-stimulative and the associative-inhibitive. The first type forms associative reflexes quickly, the second slowly. A disproportionate number of the associative-stimulative type have been found among younger children and girls. Laboratory studies on children suffering from oligophrenia in the form of mental debility, as well as similar studies in institutions for the more pronounced degrees of retardation in children (imbeciles and idiots), have demonstrated that association reflexes may also be formed in such children. The possibility of training the associative reflexes in children with insufficiently developed central nervous systems indicates the elementary character of the association reflexes of the first order; brings into the foreground the question of localization in the cortex—particularly its development in relation to the older levels; and induces us to study more closely the subcortical processes and their localization in the primary functions of the central nervous system. In studies on the blind and on deaf mutes, we have seen that in the majority of cases association reflexes cannot be formed by the use of the electromotor method.—*A. L. Shnirman* (Leningrad).

2277. **Pal, G. The vocabulary of a Bengalee girl.** *Indian J. Psychol.*, 1926, **1**, 203–213.—The author made a total inventory, covering a fortnight, of the utterances of a child of 41 months in a "respectable educated Bengalee family." The total number of sentences was 1,124, of words 3,891. The total vocabulary was 328 words. 44% of these are nouns and 19% verbs; only one conjunction (ār = and) appeared. Verbs are employed about four times as often as nouns. Studies are also made of the sound and mispronunciation frequency, of the verb forms, and of the intent of the sentences.—*R. R. Willoughby* (Clark).

2278. **Variot, G. Sur les facteurs normaux et morbides qui peuvent avancer ou retarder le début de la marche bipède chez les jeunes enfants.** (Normal and pathological factors which may hasten or retard walking in young children.) *Bull. & mém. Soc. méd.*, 1927, **43**, 353–361.—67% of infants walk between the ages of 11 and 14 months. Usually at this time they have attained a height of 71 to 76 centimeters (28–30 inches), and the majority weigh from 9 to 9.6 kilograms (19.8–21.6 pounds). The most important thing is the influence of age. This is natural, since the principal factor is the adequate development of the nerve centers which govern the motor coordination in the muscles of the vertebro-cranial column and in those of the lower limbs, and it is also the acquired or congenital diseases of the nervous system (Little's syndrome, mongolism, etc.) which disturb or retard walking the most.—*Math. H. Piéron* (Sorbonne).

2279. **Yarmolenko, A. V. [A determination of the time of the working process in children of pre-school age.]** *Voprosy izucheniya i vospitaniya lichnosti* (Problems in the study and education of personality), 1927, No. 1-2, 57–62.—On the basis of some recently completed experiments involving individual chronometric measurements the author finds that the average duration of the concentration reflex (for computation, reading and writing) in children of six, seven and eight years amounts to about 30 or 40 minutes; it follows that the demands made by the school on the children just entering it are not justifiable.—*A. L. Shnirman* (Leningrad).

[See also abstracts 2154, 2208, 2209, 2301.]

EDUCATIONAL PSYCHOLOGY

2280. **Blackhurst, J. H. Investigations in the hygiene of reading.** Baltimore: Warwick & York, 1927. Pp. 63.—After briefly reviewing the works of

Plateau, Bruecke, Javal, Weber, Cohn, Cattell, Sanford, Dearborn, Dockeray, Roethlein, Gilliland, and Shaw, and the committee reports of the Fifth Annual Congress of the American School Hygiene Association and the British Association for the Advancement of Science, the author presents the results of his own investigation on the influence of typography upon the speed and accuracy of reading by children of the first four grades. He studies the effect of size of type, length of line, leading, and regularity of margins. Using from 36 to 100 children in each group, he obtains the following conclusions: Type of 18-point (height of small letters 2.75 mm.) is better than smaller types for all the four grades, and 24-point type (height of small letters 3.75 mm.) is best for the first graders. The most desirable length of line is generally about 100 mm. There is no justification for more than 1-point (1.33 mm.) leading for third and fourth graders. For first graders there is some advantage in making both margins irregular, but no advantage in making only the right margin irregular. A bibliography of 21 titles is included.—*E. Shen* (China Institute).

2281. **Buchanan, M. A. A graded Spanish word book.** Toronto: Univ. Toronto Press, 1927. Pp. 195.—A frequency list based on a count of 1,200,000 words in 40 categories. The credit number for "order of merit" is based on both frequency and range ($f/10 + r$) and is believed on the basis of critical tests to be fairly reliable.—*R. R. Willoughby* (Clark).

2282. **Burret, J. L'éducation religieuse de l'enfant.** (The religious education of the child.) Paris: Bonne Presse. Pp. 188.—The author attempts to organize and to link up religious ideas in a series parallel to the progress of the intellectual development of the child. This is an application of a pedagogical rule to religious education.—*Math. H. Piéron* (Sorbonne).

2283. **Dolch, E. W. Grade vocabularies.** *J. Educ. Res.*, 1927, **16**, 16–26.—A free association test was given to 16,206 children in Illinois and New York, resulting in the accumulation of a total of 2,312,245 words. The numbers of children were approximately divided between the 2d and 7th grades. The average number of words written by the children in the different grades range from 73 for Grade 2 to 191 for Grade 7. These lists are then treated in accordance with Thorndike's principle for vocabularies, and hence the author is able to supply standard vocabularies for these different grades. About one-fourth of the 9,583 words so obtained do not appear in former vocabulary studies.—*S. W. Fernberger* (Pennsylvania).

2284. **Fryer, D. Interest and ability in educational guidance.** *J. Educ. Res.*, 1927, **16**, 27–39.—The author first criticises the earlier work of Thorndike. He then studies the results from 104 college students of the University of Utah, containing correlations between interest and estimated ability, interest and ability according to school marks, and ability according to school marks and estimated ability. Although the correlations are low, on the whole, they provide a better predictive value than pure guess.—*S. W. Fernberger* (Pennsylvania).

2285. **Headley, L. A. How to study in college.** New York: Holt, 1926. Pp. $x + 417$. $3.00.—This book is designed to aid students in discovering "the principles of mental economy," which should be put into their possession at the beginning of the college course. It consists of fourteen chapters, each of which has a set of questions and exercises bearing upon the topics discussed. The first two chapters deal with the topics "How to keep fit physically" and "How to keep fit mentally"—thus carrying forward the idea of the author that the student cannot work efficiently without a sound body and a sane mind. The next chapter, "How to concentrate," advises one to have a purpose, to respond actively to subject matter, to keep physically alert, to work under pressure, and not to be distracted. The fourth chapter, "How to understand," emphasizes the necessity of a critical opinion, together with the ability to relate separate items

to the larger experience of life. The fifth chapter, "How to learn," develops the following topics: control of subjective conditions, pivotal points, allowance of time for the establishment of impressions, working fast, and expression of what is learned. Chapters 6 and 7, "How to remember," discuss overlearning, recall, and the development of systems. The eighth chapter, "How to judge," urges a student to determine a basis of comparison, to isolate elements, to have a standard of reference, to assemble all facts, to be impartial and independent, and to suspend judgment, while the following chapter, "How to reason," advises one to use standard decisions to set up problems, to suggest solutions, and to work systematically. The tenth chapter, "How to read," includes topics on the simplification of motor adjustments, gaining a mastery of words, and grasping the plan of the author. The last four chapters are as follows: "How to use the library," "How to meet an examination," "How to make notes," and "How to invest time."—*P. A. Pooler* (Clark).

2286. **Knight, F. B. Possibilities of objective techniques in supervision.** *J. Educ. Res.*, 1927, **16**, 1–15.—By such devices as weekly inventory drills, teacher's diagnostic record, diagnostic tests, and the like, supervision may be better and more objectively controlled.—*S. W. Fernberger* (Pennsylvania).

2287. **Learned, W. S. The quality of the educational process in the United States and in Europe.** Bull. No. 20, Carnegie Foundation for the Advancement of Teaching, 1927. Pp. 133.—"The active factor in a person's education depends on the intellectual nature of the problem that confronts him and the effect upon him of its progressive solution. Instead of putting directly to the student the real problem that should engage him, the American school and college puts foremost the mechanical task of taking sufficient hours of lecture or recitation to secure in four years the 'credits' required for graduation. . . . In the French classroom, on the other hand, the professor endeavors clearly to envisage the goal toward which the student is already consciously pressing, and to give him that which in his judgment and experience will best aid him in its attainment. . . . What the student does with the professor's wisdom is his own affair; it is precisely in deciding what to do with it—evaluating, comparing, relating it to his ultimate purpose—that he gets his education. . . . Our failure to capitalize the intellectual vision, energy, and enthusiasm of young minds trying to get their bearings is appalling. . . . The noteworthy trait of an educational system organized as in England is its lucidity. At each of four successive stages the English boy with his foot on the threshold knows whither he is bound and what lies beyond. His task is presented to him in such form as to inspire him intellectually if he be susceptible to such inspiration; if not, the inference is that he does not belong in the university. . . . To the democratic philosophy that every one can and should go through college, the college has responded by becoming the sort of institution through which any and every one can go. . . . The European is invariably amazed at the characteristic feature of the American school and college system whereby no thorough and revealing account of what has actually taken place in the student is ever demanded." The beneficial effects of the new tutorial system at Harvard are recounted as affording to some degree a remedy for the defects indicated. A schematic diagram of the course of study in Germany, France, England and America is appended.—*R. R. Willoughby* (Clark).

2288. **Lindeman, E. C. The meaning of adult education.** New York: New Republic, 1926. Pp. xx + 222. $1.00.—A convenient-size summary of the philosophy of the "new education" movement as applied to adults, very much in the spirit, and even the style, of Dewey. In nine short chapters the educational, philosophic and social implications of such matters as power, freedom, self-expression, creative functioning, appreciation, specialism, collectivism, and the

nature and use of intelligence, are considered in the light of the principles of the "Human nature and conduct"; and in the tenth there are some suggestions as to the methodological principles implied. A short bibliography is appended.—*R. R. Willoughby* (Clark).

2289. **Minehan, T. The teacher goes job-hunting.** *Nation*, 1927, **124**, 576–577; 605–606.—The author gives reasons for the continual shifting of teachers, chief among which are the indignities and humiliations which teachers must suffer in order to get their jobs and to hold them for at least a year. The first section of the article gives a picture of the dependence of the teacher—whether rural teacher or college president—upon his employers, and shows how those who hold the best jobs are of necessity the conformists, though they may have little pedagogic ability. The contract protects the teachers in name only—it would be professional suicide for a teacher to give up his job before the end of the year, but the other parties to the contract are free to act as their emotions dictate. It is usually necessary for an itinerant teacher to pay a certain percentage of his insignificant salary to get another job paying an equally small salary and involving the same limitations. The second section tells of the qualifications as to thought and behavior demanded of applicants for teaching positions. As an example, the author quotes a few clauses from an actual contract, by which the signer promises, among other things, to give all her time to the uplift of the community, "not to go out with any young men except in so far as it may be necessary to stimulate Sunday School work," not to fall in love or become engaged or married, to sleep at least eight hours every night, to eat carefully, etc., etc. The author points out that while this is an extreme example there are hundreds of places where all the clauses are implied and enforced, and where the teacher must conform for a year in order to get the references that will enable her to secure a new job in the fall.—*M. Goodrie* (Clark).

2290. **Nearing, S. Education—for what?** *Nation*, 1927, **124**, 577–578.—The parasitic nature of American education and home life makes the majority of the victims of the system unfit to cope with reality. The average college graduate lacks his early enthusiasm, has no objective, feels useless because he has been shut off from participation in life. Instead of spending his time on social "stunts" a college student should be serving as apprentice in the work for which he is preparing. Those without purpose could remain out of college until or unless they acquired a purpose for going; in the meantime they could do some productive work—digging coal if necessary. "Education is life, and it will prove effective only when this essential relation is recognized as the basic principle of the educational system."—*M. Goodrie* (Clark).

2291. **Paterson, D. G., & Langlie, T. A. The influence of sex on scholarship ratings.** *Educ. Ad. & Super.*, 1926, 458–468.—Intelligence testing of high school seniors and college freshmen has shown a consistent sex difference in favor of the boys. Scholastic performance as measured by school marks has shown a similar difference in favor of the girls. This study shows that by the use of the new type examination technique the discrepancy between the two kinds of achievement is reduced, and the more thoroughgoing the objectivity of the test, the more noticeable is this reduction. The conclusion drawn is that sex differences in scholarship as shown by scholastic marks are largely pseudo-differences due to the influence of personality factors, and that these differences tend to disappear when scholastic performance is objectively measured.—*E. A. Collamore* (Clark).

2292. **Pollak, K. H. Why do college students study?** *School & Soc.*, 1927, **25**, 754–755.—The study concerns 89 Vassar seniors of somewhat superior grade. In this group interest in subject matter and appreciation of the future value of training seem to be no more frequent incentives than are course requirements and grades.—*H. L. Koch* (Texas).

2293. **Rezzano, J. Pestalozzi y la nueva era.** (Pestalozzi and the new era.) *La Obra*, 1927, **7**, 2–8.—The first centenary of the death of the Swiss teacher is commemorated in an address by José Rezzano, editor of *La Obra*, in which he voices the sentiment of the Latin-American people toward Pestalozzi. Pestalozzi's methods of teaching, his early theories, and his attempts to teach as he believed he should teach are reviewed by the author. His concept of the true teacher and his reconciliation of the antinomies of the problems of education are treated also. The Argentinian schools show very plainly the effects of the teachings and the concepts of Pestalozzi, according to the author, and the content of his address at this point indicates very clearly the influence of Pestalozzi on the educational concepts of Argentina.—*R. Williams* (San José).

2294. **Rezzano, J. El cuaderno unico.** (The new notebook.) *La Obra*, 1927, **7**, 193–196.—The author (editor of *La Obra*) sets forth the confusion and tyranny that exist under the present system of requiring extensive memoranda for each subject, e.g., a note book for language, for music, for mathematics, etc. The student, who ranges from a child in kindergarten to the adolescent in the higher grades, is continually confronted with the specter of having to have his notebook in on time, and to avoid or, at least, to minimize the checks against his work. As a result of this routine, predatory in nature, the child has to spend his evenings completing his routine. He therefore does not learn willingly; rather, he has the knowledge forced in upon him. Rezzano suggests there be more actual participation by the child in his work. This is closely related to his second proposition that the school is for the child and not the child for the school, that the child should be considered and treated as a child and not as an adult. The potentialities of the child are to be discovered and led out, which is the literal meaning of education. The third proposition is that the teacher has responsibility in the presentation of his or her personality. The relation between teacher and pupil should be such as to inspire confidence, in order that the fullest benefit may be derived by both. The relationship is primarily psychological. A fourth corollary is the harmonious relations of the teachers among themselves. This condition must be fulfilled in order to effect the foregoing The above constitutes the preface to a series of articles under the title of "El cuaderno único," which are to be continued in successive issues of *La Obra*.—*R. Williams* (San José).

2295. **Seinfel, R. Textbooks for moderns.** *Nation*, 1927, **124**, 579–580.—The attempt of "prophets of public opinion" to distribute American propaganda through textbooks seems not to be entirely successful. The history book sponsored by the American Legion and indorsed by such patriotic organizations as the Daughters of the American Revolution, the Women's Home Missionary Society, etc., whose united purpose was to state the "views of the nation as a whole, principally to express to the rising generation a faith in our country and a belief in it that shall tend to create a broad patriotism and love of America," is practically unknown; and some of the newer textbooks are showing a growth in the other direction. The "new history" represented by Muzzey, Beard, and others, emphasizes large living factors, rather than the America-the-hero, the-other-country-the-villain idea. Economists, students of literature, mathematicians, etc., are beginning to make use of life problems in their texts rather than abstractions. Publishers are demanding that books have an element of interest, and many of the newer texts are made attractive by gay colors and appropriate illustrations.—*M. Goodrie* (Clark).

2296. **Turner, F. H. A study in the relation of class attendance to scholastic attainment.** *School & Soc.*, 1927, **26**, 22–24.—The semestral scholastic averages as well as the percentages of class sessions not attended were obtained for 1000 students of most excellent scholarship, for 1000 of low or failing grade,

and for 1000 chosen at random from the University of Illinois rolls. These data show a direct relationship between scholarship and failure to attend classes. It is suggested that there may be a causal relationship between these two factors.—*H. L. Koch* (Texas).

2297. **West, M., & Banerjee, H. Evanescence in reading.** *Indian J. Psychol.*, 1926, **1**, 200–202.—"Evanescence" is "the disappearance of ideas gathered in reading in the interval between the reading and the review." Having assumed that "as we read we tend to express the ideas in words mentally," the authors thought it probable that the evanescence would be greater when reading a foreign language, in which power to re-express the ideas is relatively lacking. An experiment on Bengali students, reading (1) their mother tongue, (2) English, confirms this suspicion.—*R. R. Willoughby* (Clark).

[See also abstracts 2117, 2255, 2257, 2270, 2306, 2309.]

BIOMETRY AND STATISTICS

2298. **Popenoe, H. A report of certain significant deficiencies of the accomplishment quotient.** *J. Educ. Res.*, 1927, **16**, 40–47.—Report of work in the Los Angeles schools in which each pupil was given the National Intelligence Test, Woody-McCall Arithmetic Test, Thorndike-McCall Reading Test and the Buckingham Revision of the Ayres Spelling Scale. The author finds very little correlation between two accomplishment quotients taken at different times and between intelligence quotients and accomplishment quotients. The author concluded that "this reliability is lower than the minimum desirable to continue a statistical measure in use."—*S. W. Fernberger* (Pennsylvania).

2299. **Spearman, C. Material *versus* abstract factors in correlation.** *Brit. J. Psychol. (Gen. Sect.)*, 1927, **17**, 322–326.—Objection is raised to Thomson's comments on the tetrad-difference criterion (*Brit. J. Psychol.*, 1927, **17**, 235–255). —*H. Banister* (Cambridge).

2300. **Toops, H. A. Two devices for aiding calculation.** *J. Exper. Psychol.*, 1926, **9**, 60–66.—A standard deviation device, useful for obtaining frequencies, averages, and standard deviations of frequency distributions, consists of 25 piano wires stretched between two parallel steel L-bars. On each wire at the rear end are hung 50 brass checks, each of which when pulled forward on the wire takes the place of a tally mark in obtaining a frequency distribution. The wires, which represent steps in frequency distributions, are labeled from 0 to 24. The checks on each wire are numbered and each one has stamped on it figures representing the value of the step times the frequency represented by the check, and of the square of the step times the frequency. An intercorrelation device is a rotating table with certain accessories, upon which charts can be tacked for plotting on polar coördinates in the process of solving intercorrelations described by the author (1922).—*F. A. Pattie* (Harvard).

[See also abstract 2308.]

MENTAL TESTS

2301. **Bridges, K. M. B. Critical notes on mental tests for children of preschool age.** *Ped. Sem.*, 1927, **34**, 38–44.—The mental test situation is ill-adapted to the child between two and five years of age, on account of his independence, distrust of strangers, fluctuating attention; and in general, the problem of emotional adjustment will obscure the determining of intellectual and motor abilities. —*J. F. Dashiell* (North Carolina).

2302. **Bronner, A. F., Healy, W., Lowe, G. M., & Shimberg, M. E. A manual of individual mental tests and testing.** Boston: Little, Brown, 1927. Pp. x + 287. $3.50.—This manual presents what is probably the most comprehensive collection of material in the field of individual testing that has been published. The point of view from which it is presented has been derived from many years of practical experience. Working upon the assumption that mental testing needs no justification, the authors aim to render service in (1) combating the uncritical acceptance of very narrow and simple measurements as offering adequate criteria for judgment of mental capacities, and (2) promoting the utilization of a wide range of tests "that the human individual may be better known in regard to his various mental capacities, in order to relate his abilities to his possible social, educational, vocational adjustments and achievements." The material is presented in five parts: (1) introduction, (2) the individual tests, (3) interpretation of the tests, (4) other fields of testing, and (5) appendix. The manual contains all the information needed to administer, score, and numerically evaluate practically every adequately standardized individual test of mental ability, i.e., "those whose averages and medians are based on a minimum of fifty cases," also some 30 others which seem usable and worth while. Part 2 includes a description of material, directions, method of scoring, and norms for 31 language and ideational tests, such as the Shakow-Kent arithmetical series test, the Woolley cause and effect test, Woodworth-Wells opposites test, and the Monroe and Thorndike-McCall silent reading tests; 13 mechanical and assembly tests, such as the Institute of Educational Research assembly test for girls, Maxfield's color cubes, and the Healy puzzle box; 22 form board and construction board tests, such as Goddard's adaptation board test, and Witmer's cylinder test; and 5 other non-language tests, Pyle's cancellation, Woolley's identification of forms, Porteus' maze, Young's slot maze A, and the Whipple-Healy tapping test. The final chapter of this section presents the 31 inadequately standardized tests. In Part 3 is presented an interpretation of each test described in Part 2. In Part 4 is given a brief descriptive sketch of a number of individual scales, composite tests, personality and character tests, vocational and trade tests, and education tests. Part 5 includes a very comprehensive bibliography of 319 titles, arranged under the following headings: (1) mental abilities and testing in general, (2) data with groups of individual tests, (3) specific tests, (4) supplementary fields of testing (not complete, merely references for Part 4), (5) statistical reference books, and (6) bibliographical compilations. Then follows a list of publishers and manufacturers of test material. Because of the broad scope of the material presented and because of its excellent bibliography, this book should be very valuable as a textbook for college classes and as a handbook for psychological examiners.—*L. M. Harden* (Clark).

2303. **Farmer, E. A group factor in sensory motor tests.** *Brit. J. Psychol. (Gen. Sect.)*, 1927, **17**, 327–334.—Perrin and Muscio found no common factor in motor tests. This is probably due to the wide range of tests used. A small common element has been found between tests of aesthetokinetic coördination, i.e., motor tests requiring the interpretation of sensory impulses for the performance of certain rapid and accurate movements of hand and foot.—*H. Banister* (Cambridge).

2304. **Göpfert, C. Über Binet-Simon-Teste.** (Concerning the Binet-Simon tests.) *Beitr. z. Päd. u. Psychol. (Lipps)*, 1927, Heft 10. (*Friedrich Manns Pädagogisches Magazin.* Heft 1116.) Pp. 87.—The author discusses several of the single tests in the Binet-Simon series, namely memory for numbers, drawing designs from memory, arranging weights, suggestion of lengths of lines, comprehension of questions, making sentences with given words, differences and similarities of pairs of words and description of pictures. Some of these tests were some-

what changed in order to permit of group testing. The tests were given to a sampling of children in grades 2 to 9. Averages and deviations are presented for some of the tests. The author finds a wide overlapping between grades and a gradual increase in ability from grade to grade. The author concludes that it is impossible to find in the tests distinguishing characteristics for definite ages, and therefore we cannot determine what is normal for different age levels. Furthermore, children's reactions change on repetition of the test. The author is, therefore, sceptical as regards the Binet method of assigning tests to definite age levels according to a given percentage of successes. He describes in general terms the development of mental life. One stage shades over imperceptibly into another, and there is little hope of definite measurement.—*R. Pintner* (Teachers College).

2305. **Langlie, T. A. The Iowa Placement Examinations at the University of Minnesota.** *J. Engin. Educ.*, 1927, **17** (n.s.), 842–860.—The I. P. E.'s in Chemistry, English and mathematics (an aptitude and a training test in each subject) were administered for three successive years to entering freshmen in engineering, architecture and chemistry. Coefficients of variability (taken as indicative of the extent to which the tests reveal individual differences) had a median of .25 for the 18 cases (6 tests, 3 years). The training tests are distinctly more efficacious in differentiating between groups sectioned according to performance during the first two weeks than are the aptitude tests; the efficiency in this respect is greatest in chemistry. Correlations between test scores and final grades range from .39 to .63, the training tests yielding in general the higher correlations; very similar results are found when the "total scholarship" (honor points) is the variable predicted instead of the course grades. It is pointed out that better prediction is contingent on increasing the reliability of grades.—*R. R. Willoughby* (Clark).

2306. **Levy, D. M. & Bartelme, P. The measurement of achievement in a Montessori school and the intelligence quotient.** *Ped. Sem.*, 1927, **34**, 77–89.—Comparisons were made between the results of individual examinations with the Montessori materials and exercises and the results of Stanford-Binet examinations; a high correlation was obtained. Low correlations only were obtainable between the former and such factors as length of stay in school, age, and certain environmental factors.—*J. F. Dashiell* (North Carolina).

2307. **Maity, H. A report on the application of the Stanford adult tests to a group of college students.** *Indian J. Psychol.*, 1926, **1**, 214–222.—The "Stanford adult tests" were translations and adaptations of the Year 14, Adult and Superior Adult tests of the Stanford Revision of the Binet Scale; the students were 34 in number (including a psychotic and a psychoneurotic, whose records were kept separately), male; and the college was Calcutta University. The subjects were all Bengalis; their average age was 21–7, with a range from 19–0 to 26–11. The average M.A. was 15–5, range 12–4 to 19–1; the average I.Q. 95, range 77 to 122. Of the 32 subjects, 4 are superior, 16 average, and 12 dull (below 90 I.Q.). These values correlate (rank method) with teachers' estimates .50 + 10. Both deranged students were of average intelligence (I.Q.'s 100, 105).—*R. R. Willoughby* (Clark).

2308. **Thurstone, L. L. The mental age concept.** *Psychol. Rev.*, 1926, **33**, 268–278.—It is the purpose of this article to show that the mental age concept is a failure in that it leads to ambiguities and inconsistencies, hence it should be discarded in favor of a more direct and simpler measure of brightness which does not lead to logical somersaults like those of mental age. Author shows that the two definitions of mental age do not mean the same thing numerically when stated in terms of the two regression lines exemplifying their definition mathematically. Although either definition of the two commonly used might be picked

for general use by definition, both lead to ambiguities when applied to adult years and so should be discarded. All of these difficulties would be avoided if we assigned percentile ranks to children, whereby we could say, if a child received a mark of 70, that it is exceeded by 30% of children its own age and ahead of 70% in that group. We should thereby be impelled to ask whether a child keeps its relative standing in its age group as it grows older. Sigma standing might be used instead of percentile score for some purposes. It would also be possible to compare a child with children of other ages by the same set of tables and norms. Continuity for all ages is thus established and the terminology of mental age and intelligence quotient, making nonsense when applied to adults, could be discarded.—*H. Helson* (Kansas).

2309. **Thurstone, L. L. Psychological examinations for college freshmen.** *Educ. Rec.*, 1927, 1–27.—Reports results on 5,200 freshmen in 26 institutions giving the American Council Tests. Percentile norms are given for the seven tests and the gross scores. The reliability ($N = 250$) for the separate tests ranged from .711 to .979, with .959 for the gross scores. The predictive value of the tests with scholarship as the criterion ranged from .243 to .572, with .452 as the average for the 26 colleges. The closing pages give summaries and quotations of results from the use of these tests in more than a score of institutions.—*G. M. Ruch* (California).

2310. **Wires, E. The Downey will-temperament profile in personality studies of juvenile delinquents.** *J. Abn. & Soc. Psychol.*, 1926, **20**, 416–440.—The profiles obtained on the Downey Will-Temperament Test were correlated with a subjective estimate of the subjects, compiled from the results of psychometric examinations, social histories, clinical notes and personality studies. The tests were given to an unselected group of patients, ranging from 9 to 18 years of age, at the Wayne County Psychopathic Clinic in Detroit. Representative case studies are presented. There were no instances in which a score as indicated on the profile was noticeably opposed to the personality of the subject as shown by the history or analysis. In many cases a high score in a certain test was obtained by an individual who possessed in a noticeable degree the qualities supposedly tapped by the test. In quite a large number of cases such qualities were unnoted, though these individuals scored high in the test corresponding to that trait. The greatest discrepancy between the profile and subjective estimate was in the comparative values of scores made by different individuals on the same trait. When the subjects were divided into several groups according to the type of profile obtained, the reactions of each subject were found to be characteristic of the type to which his profile belonged. The traits listed on this test are not always readily apparent when making a subjective estimate of an individual, and for this reason the test may be regarded as supplementary and helpful in rounding out a personality study. The composite profile of the group is that of the impulsive, poorly inhibited type with relatively high scores on impulsion and assurance and lowered scores for resistance and inhibition. Because of the complexity of the factors operating to produce misconduct there was no profile characteristic of any type of delinquency.—*E. N. Brush* (Boston Psychopathic Hospital).

[See also abstracts 2112, 2257, 2267, 2270, 2291.]